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THE UNIVERSITY OF ALBERTA

INCEST OFFENDER SUB-TYPES

by

Kenneth John Dickson

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF
MASTER OF EDUCATION
IN
COUNSELING PSYCHOLOGY

Department of Educational Psychology

EDMONTON, ALBERTA
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Incest Offender Sub-Types submitted by Kenneth John Dickson in partial fulfilment of the requirements for the degree of Master of Education in Counseling Psychology.

R H Short
(Supervisor)

J Mitchell

David G. Wangler

Date 7 October 1987

With gratitude for a rare gift
From a radiant being -
Reflections of the light that has always been there.
Diane, you distracted me
And made it all possible.

A pink pearl from your special friend!!

ABSTRACT

There has been little empirical research in the area of incest offender sub-types and their psychological characteristics. Previous taxonomic investigations of incest offenders have typically been impressionistic, and based on vague, ambiguous, or syncretic theoretical perspectives. The intent of the present study was to develop a taxonomy of father-daughter incest offender sub-types that was theoretically-grounded, psychometrically-based, and empirically derived.

The psychometric foundation for the present study was the Personality Research Form - E (PRF-E), which also provided the theoretical grounding in terms of the need-motivation aspect of Murray's (1938) theory of personality. The empirical derivation of the typology came from a cluster analysis of the PRF-E T-scores taken from the clinical files of 88 incest offenders previously assessed at a forensic out-patient clinic. The clustering algorithm used was Ward's method in Wishart's (1978) Clustan package of clustering techniques.

Four incest offender sub-types were generated through this approach. Although based on the PRF-E, the typology was further elaborated by aggregating data for each type from test scores on the Minnesota Multiphasic Psychological Inventory and intelligence tests, as well as demographic information from the clinical files. On the basis of this combined data, the four types were described as Schizoid, Normal, Dependent, and Psychopathic, although reservations regarding these labels were also put forth. Implications for counseling as suggested by each of the distinguishing sets of typological attributes of were discussed.

It was concluded that meaningful typologies of father-daughter incest offenders can be constructed through the application of more empirical taxonomic techniques, and that such typologies represent a definite improvement over earlier impressionistic classification schemes in the field of incest offender research.

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Without the contribution of a variety of people, this project could not have arrived at its conclusion, nor could its author have reached his beginning.

I would like to thank first my supervisor, Dr. Robert Short, for giving me the latitude to discover the responsibilities that go along with the freedom to investigate a project of this scope. His obvious and consistent support, and that of committee member Dr. John Mitchell, here and elsewhere, consistently sparked a desire to do even better work.

Dr. George Pugh, Director of Forensic Assessment and Community Services, suggested possibilities that were instrumental in completing this project. His optimism contributed far more than he will ever know. Dr. Al Riediger, Coordinator of Therapy Programs at FACS, openly shared his years of therapy experience with incest offenders with me, and provided valuable insights and humor, although not necessarily in that order. His invitation to work with him in his therapy group with incest offenders, unmentionable years ago, was the initial impetus that resulted in this study.

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I have a special sense of gratitude to Cheryl, who taught me to look at everything; and it was Diane, who showed me how to love what I saw. How does one repay such a gift?

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Chapter One

INTRODUCTION

Purpose of the Study

This study is concerned with the classification of incest offenders into taxonomic sub-types that are differentiated along psychological dimensions. The classification of individual entities or observations into sub-groups sharing common patterns is a basic activity in any science. In chemistry, for example, Mendeleev's periodic table of elements represents a coherent, well-structured classification system that organizes a corpus of scientific knowledge around relevant theoretical dimensions. From these typological dimensions, principles can be derived that can then be articulated as a theory that provides direction and focus for researchers in that field.

Within psychology, however, in the area of research on incest offenders, a similarly useful, well-constructed classification scheme is lacking. The available typologies of incest offenders are neither clinically useful nor theoretically fertile. The purpose of the present study was to apply an empirical approach to the task of deriving incest offender sub-types in a manner that would overcome many of the shortcomings of previous incest offender typologies.

Inadequacies in Incest Offender Typologies

Previous efforts in the description and classification of incest offenders can be divided into psychometric and non-psychometric varieties. From a taxonomic perspective, both of these classes of studies have generated unsatisfactory results. The non-psychometric studies are usually based on collations of clinical impressions. Because of this, the typological categories tend to have vague theoretical underpinnings, or to be syncretic composites from diverse theoretical perspectives. The consequence is that (a) the inclusion criteria for the typological categories are vague and subjective, (b) the taxonomic dimensions do not cohere well or relate to each other, (c) in actual clinical practice, the process of classifying individuals in terms of such typologies will have low statistical reliability, and (d) the typology's weak theoretical foundation will yield little in terms of direction for practical post-classification interventions by the researcher or practitioner.

The psychometric studies of incest offenders have a different set of shortcomings. With very few exceptions, the psychometric investigations have been concerned with the characteristics of incest offenders taken as a whole. Sometimes researchers have contrasted them as a group with other groups of sex offenders, criminals, or non-offenders, but the research focus on incest offenders as a singular group has been fairly consistent throughout the literature. These more empirical studies have problems stemming from the psychometric instruments used, sampling bias, and other methodological weaknesses which are discussed in greater detail in Chapter Two.

The most salient concern not addressed by these studies, however, is the classification of sub-groups of incest offenders. This is a concern because the circumscription of incest offenders as a singular group carries with it the implication that these men are psychologically similar. Such a confusion could conceivably lead to misguided interventions in therapy, and even in agency or state policy changes regarding the treatment of incest offenders. It is quite appropriate for researchers in incest to begin emphasizing the importance of differentiated offender sub-types in their investigations.

Beyond the 'Single-Type' Model

Over the years, clinicians in the field have observed commonalities in the personalities and symptomatology of broad sub-groups of incest offenders. It was exactly this classification problem which the more subjective and impressionistic studies approached, albeit with a severely flawed methodology. In other words, clinical field work indicates that there is not just one type of incest offender. Not all of the offenders who have been similarly charged with molesting their children have the same patterns of symptoms and behaviours. This also implies that psychotherapeutic interventions will not be the same for all offenders. Consequently, the assessment of the characteristics of incest offender sub-types would likely facilitate clinical effectiveness in this regard. A well-developed incest offender classification scheme has good potential as a clinical tool for expediting such assessments, thereby augmenting therapy outcome effectiveness.

The Empirical Approach to Classification

The shortcomings of earlier non-psychometric typologies of incest offenders would likely impede researchers or clinicians in their efforts to reproduce previous outcomes in classification or intervention. If results cannot be reproduced, then hypotheses cannot be tested, and the science of clinical psychology cannot mature. Replicability of results is also an index of the usefulness of a typology. If a set of desirable results obtained from a given clinical intervention cannot be duplicated because of a flawed approach to classifying subsequent patients--patients who were indexed in the typology as apparently appropriate for such an intervention--then that classification scheme is not very useful.

Clinical psychologists are badly in need of clinically useful tools such as theoretically-based classification schemes that point to effective interventions. The non-psychometric typologies of incest offenders, which are discussed in Chapter Two of this study, are not overly useful, clinically or theoretically, because of their subjective, non-rigorous nature. It is clear that new developments founded on empirical methodologies are required in classification research on incest offenders.

The psychometrically-based studies in the incest literature represent an advance over the above-mentioned impressionistic and subjective classification studies, despite their own shortcomings. As Skinner (1981, p. 69) points out, "Through the continual interplay of theory building and empirical analyses, one may lay the foundation for psychiatric classifications that possess broader import", and, "A central tenet is that a psychiatric classification should be viewed as a scientific theory tht is open to empirical falsification (Hempel, 1965; Popper, 1972)" (ibid.). In attempting to measure psychological characteristics with psychometric instruments, researchers have reached a stage where they can start forming hypotheses about incest offenders, and have those hypotheses proved or disproved in the research process. This is how the knowledge base and fundamental principles of a science develop and mature.

These more empirical investigations still fall short of the mark, however, partly because of methodological problems, but primarily because they do not attempt to differentiate offender sub-types. Consequently, a typology of incest offenders that is psychometrically-based, theoretically-grounded, and empirically developed is lacking in the field of incest research despite the more empirical contributions of these researchers. It was the intent of the present study to rectify this shortcoming by generating such a typology.

Overview of the Study

For this study, permission was granted by the Research Committee at Alberta Hospital, Edmonton to examine the clinical files of incest offenders who had been assessed and/or treated at their Edmonton out-patient clinic, Forensic Assessment and Community Services. Psychometric and demographic data derived from these files formed the basis of the classification scheme. Specifically, test scores from a well-developed psychometric instrument, the Personality Research Form - E were grouped by a multivariate cluster analysis algorithm so as to form statistically distinct incest offender sub-types. The procedures used in developing this typology are described in detail in Chapter Three.

By using this psychological test, in which the scales represent theoretical personality dimensions, the typology was grounded in psychological theory. Also, the distinctions between typological categories were based on objective psychometric data. By using a clustering algorithm to group the data, the classification decisions giving rise to the typology were empirically-based rather than subjectively based. The intent of using this approach was to bypass the defects that undermine the usefulness of other incest offender typologies. The supplementary psychometric and demographic data collated from the offenders' clinical files were used to elaborate on the basic incest offender sub-types arising from the above procedure. This completed the study, and met the intended research goal which was to develop a typology of incest offenders that was psychometrically-based, theoretically-grounded, and empirically-derived.

Conclusion

Whether or not the incest offender typology generated by this study will contribute pragmatically to the practice of clinical psychology remains to be seen. It was not the intent of this study to investigate the typology's external validity. It was intended, however, that the typology be practical enough to be used by other researchers for evaluating differential therapy outcomes with incest offenders in future studies. While the methodology of the present study does not reflect state-of-the-art classification technology, it does represent a distinct advance in incest offender classification research.

Chapter Two

REVIEW OF THE LITERATURE

Introduction

Progress in the area of incest research, particularly in the area of incest offender typologies, has probably been obstructed by the kind of research scattered through the literature. Small samples, impressionistic classification schemes, vague inclusion criteria, and ambiguous or syncretic theoretical perspectives have occluded clear thinking in this area. The primary purpose of this study was to develop a typology of incest offenders that was more theoretically-grounded and empirically-derived than taxonomies generated by previous research in this area. As a supplementary issue, it was also intended that such a classification scheme could be used in future studies to evaluate therapy outcome with varieties of incest offenders. The issues, difficulties, and related research studies that provide a relevant background to the problem addressed by this study are discussed below.

Classification and Typologies

The desire to predict and control our environment has been conceived of as the motivational force innervating scientific endeavour (Kelly, 1955; Skinner, 1953). Kelly (ibid.) takes this view a step further by conceptualizing this intent as a major psychological variable determining the behaviours of human beings in general. Indeed, the ability to predict the onset and potential consequences of an environmental event will certainly give us an idea as to the timing and type of behaviours that will guide us in achieving our predetermined goals.

In order to predict future events people construe their past experiences in ways that allow them to abstract recurring themes or dimensions (Kelly, ibid.). This abstraction process is a fundamental human cognitive activity called 'concept formation'. Scientific classification is, in essence, simply a formalized approach to concept formation (Spitzer & Wilson, 1975). It involves the systematic application of logic, theory, and/or statistical technology to organize human observations. The intent of the classification process is to facilitate understanding, prediction, and control of specific future interactions of the scientist with the environment.

The concepts we abstract from our experience of the world are not, per se, concretely 'out there' in the world, but are psychological, human-made tools for interacting effectively with our environment. In the cluster analysis literature, however, one sometimes comes across the terms "natural groups" (Lorr, 1983, p. 99) or "true cluster structure" (Milligan, 1980, p. 325). These terms seem to imply that a classification scheme is accurate or not with respect to a grouping of attributes that exists, a priori, apart from the observing, construing, and abstracting human being who cognitively emphasized and organized such a grouping in the first place. The scientific enterprise of classification, however, is really a second-order level of concept formation. The question here obviously is not "Does my scheme of abstracted categories accurately reflect the self-existing natural order of reality?". Rather, the scientist is concerned with the consistency with which statistically- or theoretically-derived typologies map onto relevant attributes abstracted from observations and experience in the scientist's field of endeavour. It is less relevant that the classification reflect 'reality' than it is that the scheme of categories is a useful tool for meeting the scientist's goals: "Classifications so produced cannot be true or false, or even probable or improbable; they can only be profitable or unprofitable" (Williams & Lance, 1965, p.160).

No typology is better or worse than any other except in its function as a tool to assist the scientist in meeting specific goals. This includes practical goals as well as the goal of theory development, or understanding in the area of scientific endeavour. In clinical assessment, classifications are required to exhibit clinical utility. However, as Wolman (1978, p. 17) notes, " ... there is no consensus of opinion concerning clinical usefulness."

Diverse clinical goals and procedures for goal-attainment interact to produce a plethora of classification schemes and theoretical formulations. For example, from the work of Goldstein and Scheerer (1941) with brain-damaged versus normal people, we know that "Undoubtedly some people show preferences for the extreme of utilizing perceptually immediate attributes in their categorizing while others are more 'conceptual' or 'abstract'" (Bruner, Goodnow, & Austin, 1956, p. 10). In this light, behaviourists typically demonstrate a preference for organizing the perceptually immediate characteristics of observable behaviour into categories or concepts that guide their behaviour-change interventions. On the other hand, if a psychologist is interested in classifying constructs abstracted from experiences with people in the clinical environment-- for example, a scheme of need-motivations that are hypothesized from behavioural observations--the resulting concepts will give rise to quite different clinical goal-oriented behaviours. Since a classification scheme can be used as a tool to assist researchers in achieving their goals, it is important that the goals be explicit prior to developing the typology.

Language involves the manipulation of our concepts or categories (Rappaport, Gill, & Shafer, 1976, p. 189), scientific or otherwise. The conceptualizations we derive from our experiences will interactively pervade the use of language, and channel our behaviours with respect to the objects related to our abstractions. The "language" of science is theory and, similarly, it too is shaped by those very abstractions which the scientist organizes, construes and explicates. Theory makes explicit the various functions, interactions, and relationships between such categories. The categories themselves must be relevant if the inevitable theories are to be relevant, and fruitfully heuristic. Consequently, an important requirement of classification schemes in clinical psychology is that they contribute meaningfully to theory development; that is, to a deeper understanding of the area of clinical focus. Their utility can be evaluated according to this criterion.

The development and application of typological categories in the mental health arena has been criticized for various reasons. Sprock and Blashfield (1983) summarize the major arguments which include (a) the loss of unique information regarding an individual case, (b) the deleterious impact of category labels on mental health clients, and (c) reductionistic mental health practices in which prognostic conclusions and intervention decisions are based on diagnostic categories and accumulated statistical base rates rather than actual behaviours.

The adverse consequences of labelling clients in the classification, assessment, and diagnostic activities of clinical psychology is a serious professional concern. Problems in this area have been discussed by Scheff (1963) and Laing (1967) among others. In contrast to the field of clinical psychology, the classification of elements in chemistry, or plants in botany does not carry with it the moral and ethical responsibilities required of mental health professionals also involved in developing classification schemes. The problem here is not simply one of typologically-based myopia, or that the recursiveness of the conceptual-perceptual interaction will limit one's vision to the inner boundaries of one's preconceptions. There is the more serious concern that the treatment of individuals as typological categories can exacerbate their problems. This reduction of their multidimensional human nature to manageable and convenient proportions is often similar to the way they were treated by significant others in positions of greater power and authority prior to, and after the onset of, their problems. Consequently, such mechanistic clinical practices could actually create or bolster the very problems they seek to ameliorate. This is clearly a relevant issue for a study developing a typology of incest offenders in a forensic setting.

The answer is not found through dispensing with classification schemes, because concept formation is a normal human cognitive function and will actively continue whether it is formalized in science, or not. Clinical psychologists need the best tools they can get to help them achieve their professional goals. Rather, the answer lies in using such clinical tools to guide their thinking rather than to be a substitute for clear thinking. Treating people as typological categories rather than multi-faceted human beings, in the writer's opinion, probably arises more from expediency than necessity. Nevertheless, reductionistic mental health practices are an occupational hazard when they are based on classifications that organize a body of knowledge by reducing the multidimensional nature of life to manageable proportions. This is the intent of science. An alternative which could bypass these problems may lie in helping professionals develop their capacity to integrate a higher dimensionality of information in their observations, rather than to reduce the richness of their experiences to the Procrustean bed of the scientific paradigm. Such an approach moves opposite to the direction of science, however, and leads beyond the scope of this study.

The remaining criticism is more easily dealt with. The loss of idiographic or unique information about individuals that results from the nomothetic approach of classification research is not simply entropic. It is balanced by the increase in useful information that results from organizing large amounts of individual information into the classification scheme. The new information should be more specific and focussed with respect to the goals of the scientist. Goldberg (1972, pp. 121-122) offers an informative example:

> (G)roup profiles might serve - in a manner analogous to the use of a noise filter in audioengineering - to distill out the 'signal' (basic processes) from an observed set of 'noisy' (error-enriched) observations. That is, data based

> upon group averages have both advantages and disadvantages when compared to data based upon individual scores. The most important asset of group data stems from the attenuation of measurement error which is afforded by any averaging procedure.

The successful outcome of his study led him to state (p. 129) that

> If the findings from this study can be replicated in others, one must conclude that group data appear to contain such a high signal-noise ratio that they become extraordinarily efficient indicators of underlying processes - processes which are normally obscured by the unreliability inherent in individual data. This conclusion may serve to change the rather jaundiced views toward group profiles held by most of the psychometric community.

Diminishing the bewildering array of idiographic clinical information that can arise from a comprehensive individual assessment has a pragmatic intent. It is homologous to the role of concept formation in normal human functioning in that it helps us cope with what would otherwise be an overwhelming world. No one can grasp the total complexity of a human being in any context. Consequently, in their dealings with other people, human beings typically abstract information only on dimensions relevant to their conscious and unconscious goals and needs. Scientific classification is not different from concept formation in normal cognitive functioning; it is only more explicit, formal and systematic.

Classification Variables

The formal process of developing typologies has been greatly enhanced through the application of multivariate statistical procedures in conjunction with computers for extensive high-speed calculations. There is a danger, however, that the available technology can become a substitute for creative thinking such that any and all kinds of data are classified simply to create a classification. Apropos to this, Blashfield (1984, p.216) cites Abraham Kaplan: "The Law of the Hammer - Give a small boy a hammer and suddenly he will discover everything needs pounding."

A related concern is that the researcher can become confused as to who is developing the typology, himself or the computer program. George Kelly (1965, p. 290) has described the problem well:

> (T)he contribution the computer makes is to the economy of the language employed, not to conceptualization; albeit one must grant that linguistic parsimony may serve to clear away the clutter that stands in the way of fresh thinking. But housecleaning is not abstraction, and economizing does not constitute theoretical

> thinking. Occam's razor is a surgical instrument, not a creative tool.

The variables to be classified and the instruments or procedures used to gather data on those variables need to be clearly and creatively thought out before the number crunching begins.

In the present study, the classification variables were personological constructs derived from Murray's (1938) need-motivation theory of personality. Consequently, the incest offender data were classified on the basis of categories that are well-grounded in psychological theory. This theory has been the theme of a variety of psychometric instruments including the Thematic Apperception Test (Murray, 1938), Rohde Sentence Completion Test (Rohde, 1957), Adjective Checklist (Gough, 1960), Edwards Personal Preference Schedule (1953), and Personality Research Form (Jackson, 1967). The latter test, specifically its Form E, (PRF-E) (Jackson, 1974), was chosen as the best of these instruments for collecting data on Murray's need-variables.

Overall, the PRF-E has the most desirable psychometric properties of the tests mentioned. These attributes will be briefly discussed later in this chapter. By choosing a well-developed psychometric instrument based solidly on psychological theory, the above-mentioned problems in typology development, evident in some of the incest offender typologies to be discussed below, were avoided. This then cleared the way to choose a multivariate classification procedure to typologically organize the data. Cluster analysis was selected for this purpose from among the various statistical classification methods available.

Cluster Analysis

Blashfield (1984) estimates that the number of different techniques involving cluster analysis is more than 150. Thirteen criteria are offered by Bailey (1975) for evaluating these different methods prior to choosing one for use. Wishart's (1978) Clustan package of cluster analysis computer programs was used in generating the typology for this study. Twenty-seven methods plus a variety of similarity and dissimilarity measures can be accessed through Clustan.

A hierarchical agglomerative algorithm using Ward's (1963) minimum variance method was selected from the many methods available. Various Monte Carlo studies (Blashfield, 1976; Gross, 1972; Kuiper & Fisher, 1975; Mojena, 1977) have generally found the best recovery of their original data groups through Ward's clustering procedure. Later studies, however, (Blashfield & Morey, 1980; Edelbrock, 1979; Edelbrock & McLaughlin, 1980; Milligan & Isaac, 1980) found that the Average Linkage method often worked as well, if not better, than Ward's method in recovering the known groups underlying the artificial data structure. Milligan (1981) notes that both algorithms have fared well enough in past Monte Carlo studies that they represent a kind of performance standard against which new clustering methods should be compared. This is not to say they are perfectly understood, but only that they have shown limited success in limited areas of application. Finally, Morey, Blashfield, and Skinner (1983) compared clustering methods with real data from samples of alcoholics rather than artificial Monte Carlo data sets. They found that Ward's method gave the best discrimination of groups according to indices of internal and external validity. Overall, these studies provide sufficient justification for choosing Ward's method to cluster the incest offenders' PRF-E scores into distinct patterns of need-based motivations.

The broad spectrum of clustering methods is further amplified by various ways of scaling and representing multivariate data. The data must be represented in some way that permits the clustering algorithm to group them. For example, in the present study, the 21 variables extracted from each offender's PRF-E test profile, were represented as separate dimensions. The single vector of scores on each of these 21 dimensions can be represented as an intersect point of all the variables in a 21-dimensional geometric or Euclidian hyperspace. Some measure of association between these points is needed in order to estimate the similarity or difference between the 21-dimensional profiles which each point represents. Then the profiles can be clustered using their similarities or differences as a clustering criterion.

Similarity measures are typically correlation coefficients, and dissimilarity measures are usually some coefficient for measuring the Euclidian distance between the points. These two approaches to comparing profile similarity (or dissimilarity) differ in their impact on the representation of multivariate profile elevation (mean level of all scores), scatter (dispersion of scores about the mean), and shape (the unique up-and-down pattern of scores on all dimensions) (Cronbach & Gleser, 1953).

Although it might be useful for assessing similarity between the pattern of scores on the 21-variable PRF-E profiles of two offenders in this study, the use of the Pearson product-moment correlation in cluster analysis has been criticized (Cronbach & Gleser, 1953; Fleiss and Zubin, 1969) because of its insensitivity to profile elevation and scatter differences. When two profiles have parallel shapes, the correlation coefficient is 1.0, yet they may have significantly different elevations. Information regarding profile elevation differences is not retained by the correlation coefficient. With psychological test data, scale elevations reflect significance regarding the presence of the attribute being measured by the scale. This is a serious loss of valuable and relevant information which could be potentially used to cluster meaningful groups. The converse situation is even more confusing. The profiles can be parallel in shape, or not, yet still give rise to a correlation coefficient of 1.0 because any linear combination of the variables is all that is required to produce perfect correlation (Everitt, 1980, pp. 14-15). Further interpretation difficulties arise when two profiles show a zero correlation. Does this mean that two profiles have no consistent similarity or difference? Or does it mean that there are consistent similarities and differences but they neutralize each other. Such ambiguity compares poorly with Euclidian distance measures where a value of zero clearly means complete identity of the two profiles on all dimensions. Consequently, if correlation coefficients are the values being grouped by a clustering algorithm, it is difficult to meaningfully interpret the quantitative distinctions between the resulting groups with any certainty.

Euclidian distance measures bypass many of the problems involved with clustering correlation coefficients, however, they are not without their own weaknesses. If raw data on different variables have different metrics, then transformations in the scaling of the data can significantly alter the Euclidian distances between the variables (Everitt, 1980, pp. 17-18). This changes the pattern of dimensions whose similarities are being clustered. Standardizing the data to a mean of zero and a variance of one can bypass this problem, but can also diminish strong differences between individuals on salient characteristics which the clustering algorithm would use to distinguish meaningful groups (Fleiss & Zubin, 1969). Because the PRF-E variables used in this study are all based on the same metric, these problems have been avoided. Lorr (1966) also criticizes Euclidian distance measures because the researcher cannot tell whether a given coefficient between two profiles has arisen from small differences on many variables or large differences on a few variables. No doubt, Euclidian distance measures are not a perfect representation of data differences. Skinner (1978, p. 298) notes, however, that "... if the researcher wants to preserve the most information in his index, then euclidian distance ... would be appropriate". Despite its shortcomings, Euclidian distance measures have distinct advantages over correlation coefficients in cluster analysis.

Next we will examine the procedure whereby data reduction through cluster analysis generrates groups which can be organized into typological categories. Using the data of this study as an example, the PRF-E test profiles of 88 incest offenders could be represented conceptually as 88 intersect points in 21-dimensional Euclidian hyperspace. The clustering algorithm would calculate the Euclidian distance between a pair of points on all 21 dimensions. The inter-point distance on each dimension is squared, and these squared values are summed and divided by the number of dimensions (i.e. 21). This gives the average squared Euclidian distance (also called the error sum of squares) between the PRF-E profiles of those two individuals. These values are calculated for all pairs of points in the sample (i.e. between all pairs of PRF-E profiles), and these Euclidian distance values are stored by the computer in a dissimilarity matrix.

The 88 multivariate points can also be conceived of as 88 clusters containing one point each. The computer, through the clustering algorithm, then searches the dissimilarity matrix for the lowest value, which represents the two profiles which are closest in Euclidian space, and presumably the most similar. It establishes a boundary around these two, which are then considered to be one cluster with a membership of two individuals. For this pair, their average squared Euclidian distance is calculated, and this value becomes the centroid value representing the cluster in a new dissimilarity matrix. In the next clustering cycle, when all pair-wise calculations of Euclidian distance between points are made, the distance from the 86 non-clustered points to each other and to the centroid of the new cluster will be evaluated, rather than the distance from those points to the individual members of this newly-formed cluster. The new matrix is based on only 87 rather than 88 individual profiles because two individuals have been merged into one cluster. Thus, if there are N points available for clustering at the start of a clustering cycle, there will be N-1 points after a merger.

This, in turn, will be the new starting arrangement for the next clustering cycle. Ward's method of cluster analysis repeats this clustering and recalculation process at the end of every cycle or iteration until, in the last cycle, the two remaining large clusters are merged into one comprehensive cluster containing the entire sample of 88 points representing the PRF-E profiles.

By picking the lowest between-point or between-centroid value, Ward's method minimizes the variation between the profiles of each cluster's constituent members. Hence, "minimum variance method" is an alternate name for Ward's method. The within-groups sums of squared deviations of cluster- member values from the cluster mean are held to a minimum. Technically, Ward's clustering algorithm seeks in any given clustering cycle to minimize the increase in total error sum of squares for all groups clustered to that point as it merges the next two clusters (Anderberg, 1973, p. 143). This is the objective function it optimizes, as opposed to minimizing the error sum of squares within the specific cluster involved in the merger.

A shortcoming of Ward's method is that once a given point has become a member of a cluster, it must remain permanently within that cluster except as its group is merged as an entirety with another whole group in the agglomerative clustering process. Only whole groups, rather than subsets of a given cluster, are joined together to form new clusters. A given point or member of a cluster will not be transferred to a new cluster even if the total error sum of squares could be reduced by doing so. Several algorithms have been written to rectify this shortcoming (Feild & Schoenfeldt, 1975; Gordon & Henderson, 1977), and Wishart (1978), in his Clustan package, has a procedure called Relocate which overcomes this problem.

After the initial hierarchical cluster analysis with Ward's algorithm, Relocate begins at a cycle in the previous agglomeration process which is specified by the user, eg. at ten clusters. (The results of the previous hierarchical agglomerative cluster analysis are stored by Clustan in a file called Clusdeck. Relocate accesses this file to find the starting place for performing its search and relocate function.) Relocate compares each cluster member with the centroid values of all other clusters. If the total error sum of squares can be reduced by transferring a member of one cluster to another group, Relocate will do so. Relocating a member to a new group, however, will necessarily change the value of the group centroids of the two clusters involved in relocating a single member. This requires Relocate to recalculate the group centroid values. It then continues scanning the groups, relocating individual members, and calculating new group centroid values for the affected clusters. This search for additional opportunities to further reduce the total error sum of squares by relocating individual members is intended to generate a more optimal classification of the sample. Clusters will attain a greater density around the cluster centroid value; that is, the profile similarity of all cluster members should be enhanced.

When a complete scan of the ~~given~~ clusters (10 in this example) permits no further relocations, then the classification of members into groups is considered stable. Relocate then fuses two more clusters in an hierarchical agglomerative manner which leaves, in this example, only nine remaining clusters. It does this in a way that minimizes the error sum of squares. The relocation process begins anew at this next stage of N-1 clusters. This process is continued until Relocate clusters the minimum number of stable groups specified by the user, ~~or~~ until all members are clustered into one group. In this way Relocate seeks to minimize the within-cluster dispersion between points and to maximize the between-cluster separation. This is in keeping with Cormack's (1971) elements of a well-defined cluster: "internal cohesion and external isolation" (p. 329).

Ward's method with Relocate, as used in this study, has additional weaknesses and strengths. Anderberg (1973, p. 147) notes that the repeated recalculation of groups means has the potential for accumulating round-off error in large clustering problems. He offers a method of bypassing this problem, but it is not clear from the user's manual (Wishart, 1978) whether Clustan incorporates this precaution. Also, as noted by Edelbrock (1979), the algorithm is biased toward producing tight, spherical clusters in the multi-dimensional variable space (Wishart, 1978). This could produce spurious clusters if the real underlying cluster structure involved more elongated or ellipsoid groupings. The compensating advantage, however, is that the resulting high density clusters tend to generate more distinct profile types, which is a desirable characteristic for the purpose of generating a typology. Another advantage observed with Ward's method in Monte Carlo studies is its good recovery of known groups underlying the data structure when the clusters are not distinctly separate, but contain areas of overlap (Bayne, et al., 1980; Milligan, 1981). Ward's method, with Relocate, has some shortcomings but these are overshadowed by the robust clustering capacity of this approach.

Overall, previous research would support the use of Ward's method, a Euclidian distance measure, and supplementary support from Clustan's Relocate procedure for clustering the PRF-E results from a sample of incest offenders.

Decision Rules and Internal Validity

No clustering algorithm will tell the user when the correct number of clusters for the data set has been reached and further clustering is no longer required. For this, a decision rule regarding the number of clusters that best represents the underlying group structure of the data must be applied to the completed cluster analysis.

If the joining of two clusters at a given point in the process generates a larger than usual amount of error, it means that those two clusters were farther apart than was typical for the clusters joined up to that point. Such large increases usually occur near the end of the clustering process where two large, more widely separated clusters of points are forced together by the algorithm, when in fact it would be less artifactual to leave them as separate groups.

To pare down the number of possible clustering solutions, Mojena's Rule 1 (1977) can be applied as an empirical decision-making tool. One can view the error sum of squares variable as having a distribution of values ranging from zero where every point is a separate cluster, to a low value where the 88th and 87th clusters--the two closest ones--are joined, up to a maximum where the last two remaining clusters, which have the most distant centroids, are joined to form one single cluster. The mean and standard deviation of this distribution can be calculated, and constitute objective criteria for applying this decision-making rule to determine the optimal solution to the cluster analysis.

Mojena studied data with known group structures. Using Ward's (1963) minimum variance method of cluster analysis, he found that the best recovery of the known groups occurred between 2.75 and 3.5 standard deviations above the mean of the distribution of the error sum of squares. Using this range as a formal criterion can assist in deciding how many clusters are involved in the optimal solution to a cluster analysis.

Other relevant decision-making approaches to the problem of an optimal cluster analysis solution involve the principles of parsimony and interpretability. The extreme violation of the principle of parsimony would result when every case is seen as a separate cluster. In this situation there is no data reduction. The assumption here is that there is no common variation amongst groups of profiles that would justify them being considered as similar. In a more parsimonious solution, however, a large part of the variation in profiles for the whole sample would be accounted for by the between-cluster variance. This would mean that cluster members could be compared in terms of profile similarity, and members from different clusters could be contrasted by profile differences. The principle of interpretability requires that those similarities and differences reflect conceptually meaningful dimensions. There is always a danger that the clustering algorithm will force data together artificially. If so, the resulting group of clusters will simply be a non-meaningful artifact excreted by the computer after extensive but mindless mechanical computations.

The intent of this study, then, has been to develop a typology of incest offenders through an approach that is (a) based on meaningful personality dimensions that are well-grounded in psychological theory, (b) formed from data collected through a reliable, valid, standardized instrument that also has other stable, desirable psychometric properties, and (c) derived through a well-researched multivariate statistical classification technique. In contrast to this systematic methodology, the characteristics of other incest offender typologies will be examined next. The contrasted differences are used to justify the need for the present study.

Incest Offender Typologies

There are a very large number of dimensions on which to measure and classify differences between incest offenders. If the chosen variables are discriminatively relevant, the resulting typology will likely be more useful. If not, the classification scheme will group offenders on irrelevant dimensions. Knight, Rosenberg, and Schneider (1985, pp. 223-224) point out that "The very selection of what data to gather, what behaviours to observe and ignore, necessarily requires the application of some theory, however vague or ineffable (Popper, 1972)." This view suggests that theories range from vague to precise along a dimension of articulation. A vague theoretical perspective provides little guidance in choosing relevant classification dimensions for taxonomic activities. Also, the underlying theory itself is difficult to pin down and verify in empirical investigations. If the theory underlying variable choice for a taxonomy is made explicit, then the theory becomes testable, and related studies are comparable. Unfortunately for incest research, the theoretical underpinnings of most many incest offender typologies tend to be vaguely articulated.

In addition to the use of theory, in the writer's opinion, the researcher's goals should also be used as tools to guide the taxonomic process. Without this kind of beacon to provide pragmatic direction, the researcher could become preoccupied simply with the "fun" of collating information and classifying data sets (Good, 1965). Many of the typologies to be discussed below bring more confusion than order to the wealth of clinical data in the incest literature. Apart from standing on weak conceptual foundations, some of these classification schemes also seem to lack obvious clinically-relevant goals.

Some possible classification dimensions may appear to have less utility than others with respect to the taxonomist's goals. A clear theoretical perspective can be helpful in choosing among the many poteniially relevant taxonomic dimensions. Russell's (1984) research provides a case in point. It is possible, for example, to make typological distinctions between the possible combinations of participants: father-daughter; stepfather-stepdaughter; adoptive father-adopted daughter; etc. Sagarin (1977), without a clear theoretical perspective or any reasonable empirical evidence, suggests that differentiating between incestuous fathers and stepfathers could reveal important differences between these two categories of incest offenders with respect to the motivations and sequelae of their offences. In contrast to this, Herman (1981) points out that the blood relationship between father and daughter in the legal definition of incest is less important psychologically than the social power differential which both biological fathers and stepfathers share in common. In light of Herman's view, it might appear doubtful that distinguishing between natural fathers and stepfathers as types of incest offenders would be a useful tack for incest researchers.

Russell's (1984) reasoning on this issue was more focussed. Her investigation began with the theoretically based hypothesis that biological fathers, as contrasted with stepfathers, have the incest taboo as an additional constraint on any incestuous impulses they may have. The inhibitions against "a violation of their [daughter/]stepdaughter's trust, a betrayal of their wives,[and] a breach of the norms and laws against relating sexually to a child" (p. 20) are common to both stepfathers and biological fathers. With one less inhibiting factor, it can be hypothesized that stepfather-stepdaughter incest would be more prevalent. She found that, in her sample, there were nearly twice as many natural father incest offenders as stepfather molesters. Comparing natural father offenders with non-offenders from the same sample of households, and the same with stepfather offenders versus non-offenders, the story was quite different. Of the women with a stepfather as the main father-figure in her childhood, 17% had been assaulted, versus a 2% figure for natural fathers. Stepfather offenders were also nearly twice as likely to engage in more serious kinds of sexual abuse. This shows the importance of approaching typological research in the area of incest with some theoretical guiding principles.

Trying to differentiate incest offenders on a simple dimension is a predictable occurrance in the cognitive developmental growth of a research field breaking out of its infancy. Antecedent to this developmental stage were the earlier studies of incest offenders that attempted to discover the common group psychological profile, descriptive or psychometric, of these men. This approach to knowledge organization in the area of incest is like an undifferentiated concept, analogous to a young child calling all men "Daddy". A rigid cognitive boundary is formed around the focus of study--the incest offender, but there is an implicit concomitant assumption that these offenders have common psychological patterns because they have a common legal stigma.

Such a developmental perspective becomes apparent and appropriate when reviewing research on alcoholic sub-types. Nerviano (1976) briefly outlines the growth in conceptual sophistication in this area, from the single psychodynamic type, to the futile search for "the" alcoholic personality, to more rewarding psychometric and statistical efforts that have distilled sub-types from undifferentiated samples of alcoholics. Incest research shares a remarkably similar developmental pattern.

Early research on incest often involved single case studies or small samples, with participant characteristics being given in demographic terms or a with a psychoanalytic formulation (Gordon, 1955; Marcuse, 1923; Sloane & Karpinski, 1942; Weiner, 1962). These studies, and others, tended to be guided by the "single-factor theory" (Finkelhor, 1986) or "single-classification scheme" (Lawton-Speert & Wachtel, 1982) approach which seeks the one biographical, demographic, or personality dimension in the incest offenders as a group which will explain the etiology of incest. The history of incest research has revealed the futility of any reductionistic perspective that seeks to bypass the multidimensional complexity of incestuous dynamics. Other researchers began to analyze larger studies with aggregate demographic data and began to comprehend how social structure and socioeconomic factors contributed to the occurrence of incest (Rhinehart, 1961; Weiner, 1964).

Exploration of the multidimensional nature of incest followed various lines of research. Some studies went beyond the intrapersonal characteristics of the participants to the larger, more complex picture of multiple levels of incest determinants. Raphling, Carpenter, & Davis (1967) brought attention to the trans-generational nature of incest experiences. Other researchers began to use a family systems perspective to understand incestuous families (Cormier, Kennedy, & Sangowicz, 1962; Kaufman, Peck, & Tagiuri, 1954; Lustig, Dresser, Spellman, & Murray, 1966). Out of these efforts to understand the nature of incest as an interactive phenomenon came the first incest offender typology.

Weinberg (1955) studied 203 incestuous families, and came up with three types of incest offenders classified according to three types of "attitudes" they hold: "1) an extreme endogamic or intrafamily orientation, 2) an indiscriminate promiscuity, and 3) sometimes by an intense sexual craving for young children - paedophilia. These attitudes are criteria for classifying male incest participants into personality types" (ibid., p. 94). Rosenfeld (1977) described how Weinberg's training as a sociologist led him to emphasize two different family structures within which incest can occur: an excessively inward-focussed organization of family ties, with few outside relationships, and a disorganized structure with loose or poorly defined boundaries. These may correspond to the "enmeshed" and "disengaged" categories of families later discussed in the structural school of family therapy (Minuchin, Montalvo, Guerney, Rosman, & Schumer, 1967). The structure of personality in the endogamic and promiscuous types seems to correspond to these two types of family structures, and the pedophilic type was probably added so the typology could more comprehensively represent the research data.

Weinberg's typology is widely cited in the incest research literature, particularly his endogamic type. "One of the principal reasons for all the attention paid to father-daughter incest is that it is explained so compellingly by the various endogamous dynamics." (Lawton-Speert & Wachtel, 1982). Weinberg's other two categories are less acceptable to other researchers. For example, Cavallin (1966) had difficulty accepting incest as another form of indiscriminant promiscuity because the strong intrafamilial identifications and conflicts seen in his sample of 12 offenders contradicted the clinical pattern of psychodynamic object relations expected from the promiscuous type. Contradictory erotic preference evidence, both for and against the pedophilic type of incest offender, are presented by Freund, Heasman, and Roper (1982). This indicates that the incestuous pedophile is at least a controversial, if not questionable, category in Weinberg's typology. Also, Gebhard, Gagnon, Pomeroy, and Christenson (1965, p. 226) found the pedophilic incest offender to be a rare type in their large sample. A small percentage of the pedophiles in their study assaulted known relatives, although it is not clear from their data which of these were their own children.

While these critiques are narrowly focussed on Weinberg's typology, they highlight the broader necessity of clearly defined, objective inclusion and exclusion criteria in order to make any typology a workable, useful tool. Instead of the possibility that the incestuous pedophile is a non-existent type, it may be that the above controversy arose from problems subsequent researchers had in reliably classifying incest offenders according to Weinberg's typology. However, if clearly-stated objective qualifying criteria were used in creating the typology, then this and other research hypotheses could be tested and proved true or false. In this way scientific understanding of the incest phenomenon could progress.

Another frequently cited study was carried out by Gebhard, Gagnon, Pomeroy, and Christenson (1965) under the auspices of the Kinsey Institute for Sex Research. They interviewed 1,356 Caucasian male prisoners charged with sex offences (p. 18). Of these, 147 were charged with incest with their daughters, and 18 more were incest offenders with females other than their daughters (p. 38). This study is a veritable storehouse of valuable data, but it is confusingly arranged to say the least. (Perhaps this confusion has contributed to varying citations on this study in the research literature. Lawton-Speert and Wachtel (1982) describe the Gebhard et al. sample as consisting of 138 incest offenders, Freund et al. (1982) as 137 out of a total 2,111 white sex offenders, and Weinberg (1976, p. 99), who became of member of the Kinsey Institute in 1968, claims the sample consisted of over 1,500 convicted sex offenders. This is a example of the confusion existing in the incest research literature.)

The Gebhard et al. typology begins with a separation of offenders on the basis of the age of their daughters when the molestation was initiated. The sample of 147 father-daughter offenders was composed of 56 incest offenders versus children (aged 11 or younger), 66 incest offenders versus minors (aged 12-15), and 25 incest offenders versus adults (16 and older). The middle category was introduced in order to clearly separate the other two categories (p. 16). This classification scheme creates some confusion because there are some offenders whose offences cross typological categories. Such offenders are classified in each relevant category, which confuses the reader's understanding of the sample composition by duplicating category membership. Also, this would tend to distort inter-category comparison of offender characteristics.

Apart from the problems arising from their manner of assigning offenders to each category, the Gebhard et al. typology suffers from another serious defect. In the writer's clinical experience many, if not most, incest offenders manifest a strong denial of the extensiveness of their incestuous involvement. Only after therapy has been ongoing, and their self-esteem is strong enough to tolerate a full confession of their offence does more complete information regarding the date of onset, frequency, and duration of the incest become known. Using the daughter's age at the onset of incest as a defining criteria for typological partitions raises a problem: the reliability of the categories becomes impaired to the extent that such information is derived from the offender.

Gebhard et al. also found that incest offenders were the most guilt-laden of all sex offender types in their study (p. 246), and cite Cormier et al. (1962) to support their view. Their impression of the incest offenders in their sample was that the denial of guilt increased progressively as the daughters' ages increased. Surprisingly, they acknowledge that 13 of the offenders versus minors, and 16 of the offenders versus adults actually initiated the incest when the daughter was in a lower age category (p. 245; pp. 269-270). This raises serious questions concerning the statistical reliability of their categories, and of their assignment of offenders to these categories.

Before leaving the Gebhard et al. typology, it should be noted that within each of the three age categories these researchers also described varieties of offenders. Within the incest offenders versus children group they found the drunken, amoral delinquent, and dependent types, as well as occasional examples of pedophiles, mental defectives, and psychotics. In the incest offenders versus minors category, about half of the members were of the drunken, subcultural ("Ozark attitude"), and situational varieties. This latter catch-all category involved "a concatenation of factors, each of which, if taken separately, may be regarded as within the normal range of attitude and behaviour" (p. 247). Other more lightly represented varieties included pedophiles, amoral delinquents, psychotics, and dependent types, and "a few senile deteriorates and mental defectives" (p. 248). About 14% of the incest offenders versus adults could not be classified. The most frequent types in this group were the subcultural and amoral delinquent types, although the researchers admit they had difficulty at times differentiating these types. Additionally, "... the remaining offenders who could be classified were a motley group: two senile deteriorates, two situational cases, and several other varieties represented by only one or two men each" (p. 269).

This approach to typologizing incest offenders is subjective and impressionistic, and it lacks a unifying theoretical base grounded in psychological research. It sorely needs clear, objective selection criteria that can be consistently used to reliably classify incest offenders into the various typological categories. Unfortunately (for the organization of knowledge in incest research) some later researchers modelled their typologies after the Gebhard et al. lists of incest offender varieties. The years 1978/1979 produced a bumper crop of such classification schemes, and three of these will be briefly reviewed next.

Summit and Kryso (1978) developed a "spectrum of parent-child sexuality". Its categories include the following: (1) incidental sexual contact; (2) ideological sexual contact; (3) psychotic intrusion; (4) rustic environment; (5) true endogamous incest; (6) misogynous incest; (7) imperious incest; (8) pedophilic incest; (9) child rape; and (10) perverse incest. As a list of kinds of parent-child sexuality, its merits lie outside the scope of this evaluation of incest offender typologies. Within their article, however, the authors refer to the offenders in various categories--imperious fathers, pedophiles, child rapists--as though the list is also to be used as a typology of incest offenders. One explicit intent of their typology is "the diagnosis, management, and prognosis of sexually abusive behaviour" (p. 237). From the perspective of such a classification scheme, it may not be easy for the clinician to diagnose offenders' sexually abusive behaviour without also categorizing them with similar labels. As a typology of incest offenders, it lacks scientific rigour, and consequently is weak in clinical utility. Another criticism concerns the impressionistic nature of some of the categories. Even Summit and Kryso have their own difficulties with such categories for which the "distinction depends on highly subjective and relative judgements" (ibid. p. 247). If their classification scheme is narrowly restricted to various kinds of parent-child sexuality only, then it may have more merit.

In the process of organizing and understanding data from her post-hoc study of 58 incest cases, Meiselman (1978, p. 111), integrated Weinberg's (1955) endogamic type with the Gebhard et al. varieties of incest offenders, and grouped these categories in a more orderly manner. The categories she includes are: (1) endogamic, with personality disorder; (2) endogamic, subcultural variety; (3) psychopathic; (4) psychotic; (5) drunken; (6) pedophilic; (7) mental defective; and (8) situational. She comments,

> Beyond academic curiosity, it may well be asked whether there is any point in setting up a classification for incestuous fathers and attempting to 'diagnose' cases of father-daughter incest within this scheme. While the labels themselves are of no importance, it does seem desirable to assess the pattern of motives in each case and to recognize that incestuous behaviour can arise in a variety of personality types and social settings. (ibid.).

The third typology of this ilk was promulgated by

Justice and Justice (1979) in the context of their study of 112 incestuous families. They grouped offenders into four larger categories of personality types: (1) symbiotic personalities, which includes the (a) tyrant; (b) alcoholic; (c) introvert; and (d) rationalizer, which includes such sub-types as the (i) lover; (ii) teacher; (iii) protector; (iv) elitist; (v) exclusive property; (vi) sexually free; (2) psychopathic personalities; (3) pedophilic personalities; and (4) other types, which includes (a) psychotic; and (b) subcultural ("Ozark") type. The taxonomy of approaches to classifying sex offenders presented by Knight et al. (1985) can help to sort out why the Justice and Justice scheme is confusing. These latter authors begin with a psychoanalytical category (symbiotic), then shake in some psychiatric diagnostic categories (alcoholic, psychopath, pedophile, and psychotic), add a sprinkling of descriptive personality categories (tyrant, introvert, elitist), then top it off with a sociological category (subcultural). Yet somewhere along the way a scheme of offender excuses or deviance disavowal strategies (see McCaghy, 1968) was thrown in, perhaps so as not to miss any offenders. This "salad bar" approach to typology construction serves little more than to confuse an already confusing field of research.

The categories in these and other less comprehensive typologies (Bagley, 1969; Groth, 1982; Marcuse, 1923;

Nakashima & Zakus, 1977; Wells, 1981) tend to reflect collations of clinical impressions. No doubt, they intuitively encompass observed constellations of symptoms and behaviours. For example, Groth (1982) has found two common patterns of incest offender behaviour in terms of the offenders' husband-wife role relations: 1) passive-dependent type, and 2) aggressive-dominant type. Impressionistic categories reflecting types similar to these two patterns are prevalent throughout the spectrum of incest offender typologies. This suggests either that the typologies themselves are becoming inbred after the contributions of a few original thinkers, or that clinicians are repeatedly encountering offenders reflecting these characteristics. The impressionistic nature of these categories means that they are generally not operationally defined. Consequently, inclusion criteria are vague, and the classification of offenders by means of such typologies will likely be statistically unreliable. More empirical investigations of incest offenders are needed, and the empirical methods for taxonomic research on incest offenders are available. Intuitive categories and impressionistic schemes for organizing offender symptoms and characteristics are no longer acceptable as conceptual clinical tools.

It is time for incest researchers to move beyond the present state of affairs in incest research, which is akin to a folk mythology of clinical stereotypes. Collecting objective data from incestuous families through the use of reliable psychometric instruments will permit the development of more reliable and valid typologies with clear inclusion criteria for the typological categories. This will then permit more consistent effectiveness in diagnosing relevant clinical syndromes and intervening therapeutically with incestuous families. Meiselman (1978, p. 44) describes other valuable consequences of such an approach: "Very few studies have made use of psychological tests in the collection of data. ... While all of the better-known standardized tests contribute some additional knowledge beyond that gained by interviews alone, the increased reporting of objective test results would be especially desirable, because these results are less likely to be affected by the subjective biases of the researcher and because of the interesting possibility that results obtained from different samples by different researchers could be combined, which is especially intriguing in a field of research where small samples are almost the rule." The classification-related issues involving the use of psychological tests for evaluating incest offender characteristics, and some related studies will be examined next.

Psychometrics in Incest Offender Research

Of the psychometrically-based studies of incest offenders, most do not try to derive offender sub-types. Those that do, as well as the others that do not, generally lack the substantive connection to psychological theory (Loevinger, 1957) that is necessary to ground research and organize clinical knowledge of incest on a solid theoretical base. Such knowledge, in turn, would hopefully be a guide to consistent and effective therapeutic interventions with incestuous families. Previous attempts at assessing and/or typologizing incest offenders with psychological tests have not generated adequate typological tools for classifying the offenders and streaming them into those forms of therapy from which they are most likely to benefit.

There is a surprising dearth of published studies on the assessment of incest offenders by means of psychological testing. In studies where tests have been used, intelligence testing has been the most common, and has revealed that incest offenders are generally of average intelligence (Cavallin, 1966; Gebhard, et al., 1965; Lukianowicz, 1972), or higher (Weiner, 1962). Several of the older studies, however, found offenders with dull-normal intelligence or less to be represented more frequently (Kubo, 1959; Weinberg, 1955) than did subsequent studies. Deriving incest offender samples from prison populations may have biased the older studies. Intelligence does not appear to be a useful variable for differentiating incest offenders.

Published studies on the personality testing of incest offenders have typically involved either projective tests such as the Rorschach Inkblot Test, Thematic Apperception

Test, Blacky Pictures Test, and Michigan Picture Test (Martin, 1958; Weiner, 1962), objective self-report inventories like the Minnesota Multiphasic Personality Inventory (MMPI) (Cavallin, 1966; Kirkland & Bauer, 1982; Langevin, Paitich, Freeman, Mann, & Handy, 1978; Panton, 1979; Pittman, 1981; Scott & Stone, 1986), or both (Raphling, Carpenter, & Davis, 1967).

With one exception which is discussed below, psychometric studies have not investigated incest offender sub-types. Rather, they have assessed the offenders as a group. For example, in a therapy outcome study of incest offenders in group treatment with Parents United, Curry (1981) used the Tennessee Self-Concept Scale, and compared offenders' scores with test norms in order to evaluate therapeutic change. Martin (1958), using three projective tests, contrasted 30 incest offenders against 21 men convicted of non-incestuous statutory rape and 20 break-and-enter felons. Panton (1979) compared 35 imprisoned incest offenders with 28 non-incestuous child molesters, and Stillman (1981) differentiated incest offenders and pedophiles. Both researchers used the MMPI. Test results yielded differences between the contrasted groups in each of these studies.

Research that discriminates incest offenders from non-incestuous sex offenders or other classes of prisoners on the basis of psychological tests is a small step in the right direction. It must be remembered, however, that the criminal justice system will generally separate such groups with greater statistical reliability than will psychological tests. This is because the differentiations in both approaches are based on legalistic categories rather than personality variables. Seeking to develop psychological types based on legalistic distinctions engenders a different threat to the validity of the resulting typology:

> Definitions of what constitutes a 'sexual offense' have varied from state to state, resulting in marked differences in the reported frequencies of offense and behaviour categories in different samples. Such definitional problems have been compounded both by the highly vague specification of legal charges (Karpman, 1954) and by the unpredictable consequences of plea bargaining on the specification of charges (Glueck, 1956). Earlier studies were especially problematic because 'sexual offender' samples were inflated by the inclusion of groups who are now no longer considered sexual offenders. For instance, consenting homosexuals constituted 20 to 25 percent of some early studies (e.g., Apfelberg et al. 1944; Brancale et al. 1965). (Knight, Rosenberg, & Schneider, 1985, p. 223).

Consequently, the goal of being able to generate a differential diagnosis from a scheme of clinically useful incest offender sub-types should guide classification research in the area of incest, but attention needs to be given to the attendant dangers of definitional problems and sampling bias when working from legalistic categories.

A general comment on the above studies is that psychometrically-based typologies of incest offenders sub-types will be of much greater value than test results that attempt to discriminate incest offenders from pedophiles (eg. Panton, 1979). This is particularly so since phallometric assessments offer much greater precision in diagnosing pedophilia than do psychological tests.

Only one study in the literature tried to develop sex offender sub-types, including incest offender sub-types, on a psychometric basis. Anderson, Kunce, & Rich (1979) assessed 92 sex offenders (including 13 incest offenders) who were institutionalized for psychiatric evaluation. The MMPI test results were grouped through a Q-type factor analysis with a varimax orthogonal rotation that was limited to three factors so as to derive three personality types that accounted for 88 of the subjects. That is, the sample of 92 sex offenders was composed of three groups (child molesters, rapists, and incest offenders). Then three significant MMPI profile types (Frequency-Schizophrenia, Psychopathic deviate-Mania, and Depression-Psychopathic deviate) were derived from the whole sample, and each member of the three groups was assigned to that profile which correlated most closely to his own.

Of the three profiles, the Frequency-Schizophrenia pattern was found in the largest portion of both rapists and incest offenders. This is somewhat unusual since the characteristics of rapists and incest offenders are different (Gebhard et al., 1965). Three issues should be considered here. First, since there were more rapists than child molesters and incest offenders combined in this sample (rapists outnumbered incest offenders by nearly four to one), it is quite likely that the rapists contributed substantially more than the incest offenders to factor variance in the formation of the three profiles. Also, using rank order correlations to classify individual profiles does not bypass this problem since each profile will correlate most closely with one of the three typal profiles, to which it will then be assigned. As was discussed above in the section on similarity measures, correlation coefficients do not account for profile elevation. Elevation of T-scores over 70 is the criterion for assessing significant psychopathology on the MMPI. Consequently, the incest offenders may have had scale configurations similar to the rapists, but it is possible that the rapists scored much higher on those patterns. The minimum acceptable correlation for assigning a profile to a category is not given in the report.

Second, the bias in the sample is aggravated by the method of deriving types to represent the demographic and behavioural data. Twenty subjects with correlations greater than or equal to .8 with the first type, 20 subjects with correlations greater than or equal to .6 with the second type, and 12 subjects with correlations greater than or equal to .55 with the third type were chosen as most typical of the three categories. Aggregated data to describe the characteristics of the three types came from these most representative subjects. It is quite possible that the rapists, who predominated in type one (as well as the whole sample) were also the most highly correlated with the profile type. The resulting typal descriptions may therefore more accurately reflect rapists than incest offenders, at least in the context of their sample. It is not stated how many rapists versus incest offenders contributed to the aggregated data descriptive of each of the three 'ideal types'.

Third, several researchers have pointed out the problem of sample bias when researching on imprisoned or hospitalized incest offenders (Finkelhor, 1986, pp. 138-139; Meiselman, 1978, pp. 31-37). A sample of hospitalized incest offenders may not adequately represent the non-hospitalized remainder of the population.

Typologizing the psychometric assessment results of a sample consisting solely of incest offenders would probably generate a more accurate classification of incest offenders sub-types. It would be interesting to subsequently match these established types with a variety of control groups.

Another way to improve upon the Anderson et al. study would be to use a psychological test with psychometric properties superior to those of the MMPI. Relatively high inter-scale correlations due to overlapping test items, and substantial between-scale differences in reliability coefficients in the MMPI make multi-scale profile interpretation more problematic (Anastasi, 1976, pp. 502-503).

Jackson (1974) has bypassed these problems with a state-of-the-art model of test construction that was used to generate the Personality Research Form - E (PRF-E). Scale content saturation is maximized by developing homogeneous scales that still adequately cover the content domain of the scale. Inter-scale correlations are minimized through internal consistency and item analysis procedures. There are no items common to more than one scale. Social desirability bias is minimized intentionally through proper item selection. The PRF-E meets Loevinger's (1957) 'substantive' requirement for construct validity in test construction in that the scale dimensions are derived from the need-dimensions of Murray's (1938) theory of personality structure.

A final advantage of the PRF-E over the MMPI in typologizing incest offenders lies in its appropriateness for use in assessing relatively normal subjects, compared to the MMPI which was normed on individuals suffering psychiatric disturbances. This is not to say that incest is normal, although it is fairly widespread, but that many researchers have found that incest offenders do not differ significantly from a normal population of males except for their offence (Finkelhor, 1984; Groth, 1982). The MMPI would probably serve more usefully as a means of comparing pre-established sub-types of incest offenders along dimensions of psychopathology so as to flesh out the characteristics of the typological categories. There are no instances in the published literature which involve the use of the PRF-E with incest offenders, although it has been used with psychiatric patients (see Jackson, 1974) and alcoholics (Zivich 1981). Consequently, this study also contributes to the nomological network (Cronbach & Meehl, 1955) of the PRF-E. These are some of the contributions to incest research which are intended in the present study.

Finkelhor's Model of Incest Etiology

Before concluding this review, it would be useful to describe a relatively recent innovation in the field of incest research. Finkelhor (1984) has developed a "Four Preconditions Model of Sexual Abuse" which appears quite useful for organizing the diversity of incest research studies into a meaningful body of knowledge. The first precondition is the motivation to sexually abuse a child, and it is composed of three factors: 1) emotional congruence, or the non-sexual variables which contribute to a matching of the adult's emotional needs and the attributes of the child; 2) variables facilitating adult sexual arousal toward a child; 3) variables involved in blocking offenders from getting their sexual needs met by other adults. The remaining three preconditions are concerned with variables needed to overcome internal inhibitions, external impediments, and the child's resistance to being sexually abused.

It would be useful for incest researchers to relate their studies to this model in order to enhance the comparability of studies, and to further develop the clinical utility of the Four-Preconditions Model. Because the present study is based on patterns of need-motivations, it is seen to have primary relevance to the first precondition, the motivation toward sexual abuse. In particular, the results of the present analysis can be interpreted in terms of Finkelhor's model so as to further enhance a description and understanding of the blockage and emotional congruence factors he has delineated. By placing this study squarely within the context of Finkelhor's theoretical model there is a greater probability of contributing to the construct validity of the model, and reciprocally, of organizing more coherently our understanding of motivational differences among sub-types of incest offenders.

Conclusion

The intent of the foregoing review was to provide the reader with an informational background regarding typologies in general, statistical classification techniques, and incest offender typologies, all of which are involved in this study. In particular it was intended that the present study be placed in the context of previous research on incest offenders. The methodological problems of much of that research were made explicit so as to emphasize the importance, relevance, and need for the present study in the area of incest research. Typologies are clinical tools, and therefore should have clinical utility. A typology of incest offenders that is rooted in psychological theory, based on psychometric data, and developed by present-day statistical classification techniques would be a definite improvement over any of its predecessors which lacked these characteristics. With this intent in mind, the present study is described in more detail in the following chapters.

Chapter Three

METHODOLOGY

Data Collection

Over a three year period, the data for this study were gathered through post-hoc analysis of clinical files at Forensic Assessment and Community Services (FACS), an out-patient branch of Alberta Hospital, Edmonton in Edmonton, Alberta. Because of this after-the-fact approach, it was not possible to rectify instances of missing demographic data. In the next chapter, results based on less than full group data on any given variable will be noted.

Sampling Procedure

The original sample consisted of 212 people who were either charged with a sexual offence against children, or were about to be charged. That is, the members of the sample were not at a uniform stage in the judicial process. The range varied from (a) after disclosure of the offence to some authority but prior to the laying of charges, to (b) after release from prison but prior to the expiry of the terms of probation. There was no way to match members for equivalence in their post-disclosure involvement with the legal-judicial system without also drastically reducing the sample size. To do so would have made it impossible to conduct this study.

Members of the sample were not matched for the severity of the sexual abuse they perpetrated. Such information as presented by the incest offender tends to be unreliable at the time the offenders are assessed because of a strong sense of personal guilt (Gebhard et al., 1965), and because of the pragmatic need to appear minimally culpable in the eyes of the court. After therapy has been ongoing for some time, and a sense of trust has developed between offender and therapist, it often turns out, in the experience of this writer, that offenders will confess to a greater extensiveness of sexual abuse than they initially were willing to admit. Sample members also were not matched for the charges laid against them. Quite frequently different charges will be laid by police officers for the same form of sexual abuse. Plea bargaining can change the constellation of charges laid to such an extent that they are of little use in categorizing incest offenders or describing incest offender types.

In addition, the sample was not a random selection of incest offenders. Rather, the sample was biased by a non-random selection procedure that sought to maximize the sample size within the limits of certain parameters described below. The initial sample included all sex offenders against children who underwent a psychological assessment at FACS between 2 August 1983 and 5 June 1986. These assessments were part of their routine psychological examinations at FACS, and were conducted by a number of different staff psychologists.

Other sources of potential data bias were: (a) The individuals did not participate voluntarily in their assessment at FACS, but were often required to do so by the police or the court. This may have compromised the willingness of some offenders to answer test questions honestly. (b) Members of the sample were of lower or middle socio-economic status; there was a dearth of upper class offenders. The addition of upper class offenders to the sample might possibly affect the number of offender types in the typology, or at least have skewed the distribution of PRF-E scores. (c) By definition, the sample included individuals who were not smart enough, influential enough, or simply lucky enough to avoid detection or prosecution. There is little aggregated information on the characteristics and tactics of offenders who slip through the cracks in the social-legal-judicial system. If it were possible to include these individuals, the number of typological categories and/or their characteristics could potentially be affected. The present sample of incest offenders differs in the following way from other samples of imprisoned (Cavallin, 1966; Gebhard, et al., 1965) or hospitalized incest offenders (Anderson, Kunce, & Rich, 1979). A few members of this sample have been to Alberta Hospital, Edmonton for psychiatric assessments or as inpatients, and some had been incarcerated at Fort Saskatchewan Correctional Center. The majority, however, were referred to FACS because of its group therapy programs for offenders and couples, rather than for concerns around possible psychiatric impairment. Consequently, they are probably somewhat more representative of the broader population of incest offenders than would be a sample drawn from prisons or psychiatric hospitals. (d) Policy and mandate changes at FACS during the latter part of the study period restricted the availability of FACS' psychological services for incest offenders to those whose home was outside the Social Services district of Edmonton. Consequently, there was a shift in bias toward rural rather than urban offenders assessed during this period. This rural-urban dimension may also affect the typological patterning of father-daughter incest offenders. Despite the above limitations, the data provided a useful foundation for evaluating the characteristics of incest offenders.

From the larger sample of sex offenders against children, it was necessary to cull individuals who did not meet the inclusion criteria for a subset of father-daughter incest offenders. This exclusivity obviously was itself a source of bias in the kind of information collected. The advantage, however, was that it helped overcome a specific weakness seen in other incest offender typologies. Such typologies typically are generated from indiscriminately over-inclusive samples that include all types of sexual offenders against children. 'Salad bar' typologies (eg. Justice & Justice, 1979, pp. 59-92) tend to result from this kind of over-inclusiveness. In the attempt to be comprehensive, these catch-all lists of categories can generate more 'noise' than new and useful information, and tend to add confusion to an already confusing area of research. Therefore they offer little guidance in their function as tools to assist intervention, treatment, or theory development regarding incestuous families. The purpose of narrowing the inclusion criteria in this study was to 'fine-tune' the typological categories. It was intended that this would enhance the utility of the resulting typology.

In keeping with this intent, several mothers who offended against children were excluded from the sample. Also excluded were fathers who offended only against male children. Inclusion parameters required that at least one victim be female since the typology is one of father-daughter incest offenders. Some members of the sample offended against both male and female children prior to their apprehension, but were included if they had a father-figure role with respect to the female children they molested.

Any of the remaining sample members who tested positive in a phallometric sexual preferences assessment, or who, in the psychologist's view, met the non-phallometric criteria for a diagnosis of pedophilia were also excluded. The focus was on father-daughter incest, emphasizing fathers who had regressed from adult-adult sexuality to sexual relations with a child, rather than offenders who had always been sexually fixated upon children (using terminology from Groth, 1985). It is not known if the inclusion of pedophiles would significantly alter the distribution of PRF-E scores obtained for this sample. Pedophiles are typically assessed at FACS through a more comprehensive assessment procedure, and therapy with pedophiles is conducted separately from the non-pedophilic incest offenders. Since this study was intended to facilitate a future therapy outcome study with incest offenders at FACS, pedophiles were excluded from the sample.

To screen out cases of sibling incest, inclusion criteria required that the offender had to have been in an enduring position of authority and responsibility over the victim at the time of the offence; for example, babysitters were excluded. Also, offenders below the age of 18 were excluded. Using the psychological, rather than legal, definition of incest allowed step-fathers, common-law husbands, grandfathers, and uncles to be included in the sample, but brothers, neighbours, babysitters, and other males who may have had temporary authority over the child were excluded.

The final set of inclusion criteria required that the clinical file contain at least two completed specific assessment instruments: (a) the Personality Research Form - E (PRF-E) (Jackson, 1974), and (b) the Minnesota Multiphasic Personality Inventory - form R (MMPI) (Hathaway & McKinley, 1967; see Greene, 1980, p. 17 re Form R). Demographic data and intelligence test scores were also gleaned from the clinical files, but the presence or absence of this information did not affect inclusion of individual offenders in the sample.

Where it was available, demographic or non-psychometric information was compiled on the following variables: (1) age, (2) education, (3) criminality, (4) alcohol abuse, (5) illicit drug use, (6) marital status, (7) marriage duration, (8) previous marriages or live-in relationships, (9) extramarital affairs, (10) number of children over whom the offender had authority, (11) number of children offended against, (12) their legal relationship to the offender, (13) their age at the time of disclosure, (14) duration of the sexual abuse, (15) frequency of molestation, (16) whether the offender himself had at some previous time been sexually victimized, (17) and by whom, (18) whether the offenders parents were alcoholic, (19) physically abusive, (20) and/or sexually abusive, (21) the offenders' ethnicity, and (22) their employment status at the time of disclosure.

The above information was collated primarily from the psychologists' assessment interview notes and subsequent therapy notes, police reports, probation officers' presentence and/or probation reports, and occasionally from psychiatric evaluations and more detailed assessments completed at Alberta Hospital, Edmonton. All of these information sources were contained within the offenders' clinical files at FACS.

Psychological Tests

Estimates of the offenders' intelligence were derived from intelligence tests completed by the offender as part of his routine psychological assessment. The scores used in this study were from one or two of the three intelligence tests typically used for forensic evaluations at FACS: (1) Wechsler Adult Intelligence Scale - Revised [WAIS-R] (Wechsler, 1981); (2) Shipley Institute of Living Scale [SILS] (Shipley, 1940); and (3) Raven's Progressive Matrices [RPM] (Raven, Court, & Raven, 1978). If the WAIS-R comprised part of the offender's assessment, results from it were given predominance over other intelligence test results. In cases where differential results were obtained from the SILS and RPM, the higher of the two scores was used. This happed in two cases. The Shipley norms used to estimate WAIS-R Full-Scale I.Q.'s were those derived by Zachary, Crumpton, & Spiegel (1985). These norms provide more accurate estimates because their prediction equations are derived from the WAIS-R rather than the WAIS (Wechsler, 1955). Studies have shown the WAIS to give rise to higher intelligence scores than the WAIS-R (Lippold & Claiborn, 1983; Rabourn, 1983; Wechsler, 1981, p.47). Consequently, the newer and more appropriate norms for the Shipley were used in place of the older Paulson and Lin (1970) norms for estimating intelligence quotients for the incest offenders.

After screening out files on the basis of the above criteria, the original sample of 212 sex offenders against children was reduced to 88 'father-daughter' incest offenders between the ages of 24 and 56. Of these 88 offenders, 77 were White, 9 were Native or Metis, and 2 were Black. In several cases where step-sons and a female cousin were offended against, the offenders also molested their step-daughters; otherwise they would not have been included in the sample.

Examining the Data Structure

The primary data in this study were the PRF-E scores because they were the basis upon which the incest offender typology was developed. Using the SPSS-X computer package of statistical analysis programs, a frequency count on each of the 22 PRF-E variables was conducted to see if there was sufficient spread in the scores, and enough separate frequency peaks within the range of each variable to indicate that a cluster analysis would be justified. This approach was suggested by (Blashfield, 1984). The results were positive, with the exception of the Infrequency scale in which, for the entire sample, there were only three different T-score values in the data set out of a possible 16. Because of this, and because the Infrequency scale lacks a substantive or theoretical connection with the rest of the PRF-E scales, it was considered for removal from the data prior to clustering.

The PRF-E intercorrelation matrix was then examined to see if the psychometric strengths of the PRF-E held up with this particular sample of individuals. Also, the PRF-E and MMPI data were intercorrelated to evaluate Jackson's contention of "the relative independence of PRF-E scales from measures of psychopathology" (1974, p.42).

Another suggestion by Blashfield (1984) is for a preliminary data analysis involving factor analysis. Accordingly, the data were then factor analyzed using the FACT20 computer program (Hunka, 1980). A principle axis analysis with orthogonal varimax rotation was used to examine the factor structure of the incest offenders' PRF-E data set in the present study. Results from this analysis and a preliminary linear discriminant analysis following a trial cluster analysis confirmed that scores on the Infrequency variable contributed minimally to group separation. Following Zivich (1981), the Infrequency scores were excluded from the data set in the cluster analysis. Additionally, an orthogonal procrustes rotation using Zivich's (1981) factor analysis results as a target matrix allowed a comparison of the factor structure of PRF-E scores of incest offenders with his sample of 102 alcoholic males.

Cluster Analysis

Wishart's (1978) Clustan package of cluster analysis computer programs was used in generating the typology for this study. A hierarchical agglomerative algorithm using Ward's (1963) minimum variance method was selected from the many methods available. A squared Euclidian distance coefficient was used (specifically, coefficient 24 in Clustan) as the dissimilarity measure that is actually clustered. The PRF-E variables used in this study are all based on the same metric, which avoids certain distortions in the data that can arise from scale transformations with Euclidian distance measures. The Relocate routine in Clustan was used in conjunction with Ward's method of clustering, as described in Chapter two, in order to increase the density of the clusters around the group centroid. The use of Ward's method of clustering, with a Euclidian distance measure, and supplementary analysis from Clustan's Relocate procedure is a commonly accepted research practice, and is appropriate for clustering the PRF-E results of a sample of incest offenders.

Decision Rules and Internal Validity Tests

The sequence values of the error sum of squares produced after each clustering cycle were visually inspected for large differences. Potential stopping places in the clustering process were indicated by sudden increases in the total error sums of squares for a given number of clusters. To pare down the number of possible clustering solutions, Mojena's Rule 1 (1977) was applied to this range of potential solutions as an empirical decision-making tool. Mojena studied data with known group structures. Using Ward's (1963) minimum variance method of cluster analysis, he found that the best recovery of the known groups, occurred between 2.75 and 3.5 standard deviations above the mean of the distribution of the error sum of squares. These criteria for an optimal clustering solution were applied to the cluster analysis output.

To determine which of these possibilities was the optimal solution, four different analyses were applied to each of the potential cluster solutions. First, Wishart's (1978) global solution test was applied. Each of the potential solutions was compared with hierarchical cluster solutions of the same rank (i.e. having the same number of clusters) re-sorted by routine Relocate, but under four different conditions: (1) using the same between-point distance measure as used in the original cluster analysis (coefficient 24), but starting with an assignment of the 88 members into ten random clusters rather than starting with the ten clusters developed sequentially and hierarchically by the clustering algorithm; (2) using the same distance measure but starting Relocate from the nine-cluster cycle rather than from the ten-cluster cycle; (3) starting Relocate with ten random clusters, but using a measure of cluster size or diameter differences (coefficient 29) rather than the squared Euclidian distance measure used previously to derive the original clusters; and (4) starting with ten random clusters, and using a second different dissimilarity measure, a coefficient of shape or pattern difference (coefficient 30). This "is obtained by subtraction of the size component from the overall taxonomic distance" (Wishart, 1978, p. 118). If the same group membership is found under these diverse conditions as is found with the original clusters, Wishart considers the cluster solution to be robust, globally optimal, and most likely valid.

The second test, following Strauss, Bartko, and Carpenter (1973), was to randomly divide the sample into two subsets of data, and then cluster each subset separately. After this, the subsets were then joined, and the potential cluster solutions are compared with the group membership derived by the original analysis. Ideally, the same group members will end up clustered together in the split-half samples as in the original whole-sample cluster analysis.

In the third test, each of the three potential solutions were subjected to a linear discriminant analysis with computer program MULV02 (Hunka, 1981). This was to determine if there was adequate separation between the groups to justify calling them distinct clusters. The cluster solution which also had the best separation among clusters as measured by the F-statistic values for each of the 21 dimensions would considered the preferable solution.

The final test in this series involved a reclassification of members into either four, five, or six groups using the multivariate classification computer program MULV03 (Hunka, 1980). This program uses the discriminant weights found for each of the 21 PRF-E variables by program MULV02 such that the widest separation of groups was found. Applying these weights to the original scores, MULV03 re-groups the sample members. If the original clusters were tightly clustered within groups, and widely separated between groups, then accurate reclassification should occur. If outlying members of a group are loosely attached, and if there is some overlap or weak separation between groups, then reclassification errors are possible. The potential clustering solution with the fewest reclassification errors would be considered the optimal solution according to this test.

The final choice of the optimal clustering solution would be that solution which performed best overall on the four tests.

Characteristics of the Incest Offender Types

The next stage of the study involved fleshing out the typology that was based on the four-type solution to the cluster analysis. Mean group T-scores on the PRF-E and K-corrected mean group T-scores on the MMPI were graphed to allow a visual comparison of the four clusters on all relevant variables.

The cluster analysis would find groups, and the discriminant analysis would justify the distinctness of these groups on the basis of a linear combination of all 21 PRF-E variables used. In order to determine if there were any statistically significant differences between the groups on specific variables, rather than the combination of all variables taken at once, a one-way multivariate analysis of variance was conducted on the PRF-E scores, and separately on the MMPI scores, using the MULV16 computer program (Hunka, 1983). Since this program only handles a maximum of 20 variables, one of the 21 PRF-E variables had to be dropped from the analysis. The PRF-E variable, Play, was culled, and its scores were not included in the manova. A graphical representation of the PRF-E scores revealed that the Play variable had the least separation between the means of the four groups, and would be the least likely candidate to contribute to significant differences between groups.

Finally, using computer program DEST07 (Kozlow & McKenzie, 1982), ranges, means, and standard deviations were calculated for the typological groups on the PRF-E and MMPI T-scores, intelligence test scores, and demographic data.

This completed the basic steps required to develop a scheme of father-daughter incest offender types. The results of these analyses are described next.

6

Chapter Four

RESULTS

Sample Description

In the following description of the study results, there are cases where demographic information was not available. This is indicated where appropriate. Consequently, percentages of the sample having or missing a given attribute may not sum up to 100%. The percentages cited are proportions of the full sample of 88 incest offenders rather than the diminished sample for which such information was available, except where it is explicitly stated otherwise.

The sample of father-daughter incest offenders analyzed for this study consisted of 88 men between the ages of 24 and 56. Their mean age (based on 88 records) was 37.6, with a standard deviation of 7.0 years. The ethnic composition of the sample (88 records), as mentioned in the previous chapter, was predominantly Caucasian, with 77 Whites (87.5%), nine Natives or Metis (10.2%), and two Blacks (2.3%).

There was a fair amount of variability in the range of education of sample members, with some having as little as four years of formal education, and others having some post-secondary experience, and up to a total of 20 years of education. This information was based on 86 records. The mean length of education was 10.3 years, with a standard deviation of 2.4 years.

Intelligence estimates for the study sample derived from the WAIS-R in 13 cases, from the RPM in 3 cases, and from the SILS in 71 cases, for a total of 87 records. The SILS estimate of I.Q. was lower than the RPM estimate in both instances where these two test scores were available. The SILS estimate was lower than the WAIS-R full scale I.Q. in four out of the five cases where both of these scores were available. Incest offender intelligence quotients ranged from 71 to 120, with a mean I.Q. of 96.64, and a standard deviation of 11.51. These figures were derived from 87 records.

Evaluating the employment status of this sample of incest offenders was made more difficult because of the impact of the legal-judical system on their ability to keep a job. For example, some offenders lost their jobs when they were incarcerated. Therefore, even though they may have had a stable work history prior to their offence, they were categorized as unemployed at the time information was collected for their clinical file. Consequently, this information is not conclusive, but it is suggestive. Employment information was based on 85 records. At the time of disclosure, 68 (77.3%) were gainfully employed full-time, 1 (1.1%) had part-time work, and 16 (18.2%) were unemployed. The 3 offenders for whom employment information was not available comprised the remaining 3.4% of the sample.

Criminality information was based on a full sample of

88 records. Police information on this variable was quite accurate and up to date. Speeding offences and impaired driving charges were not included as instances of an offender having a criminal record. Twenty-nine (33%) members of the sample had a criminal record prior to being charged with sexually abusing their children. For the remaining 59 (67%), the sexual abuse was their first offence. No attempt was made to categorize the kinds of offences committed by those offenders with prior records.

Alcohol and drug use were deemed relevant variables because of their disinhibiting effect, and the role attributed to disinhibition in the etiology of incest (Finkelhor, 1984). An offender was classified as an abuser of alcohol if he admitted he had a problem controlling his drinking, if he had previously received professional treatment for alcohol abuse, if he had an impaired driving charge on his record, or if he attributed the cause of the incest to his drinking. Fifty-three (60.2% of the whole sample) of the 84 offenders for whom information on alcohol use was available were considered alcohol abusers. The remaining 31 (35.2%) did not seem to have difficulty controlling their drinking, or at least did not admit to such difficulty. The 4 offenders for whom this information was not available comprised 4.6% of the sample.

There was very little information on drug abuse, but information on illicit drug use (rather than abuse) was more accessible. Of the 72 records used to evaluate this variable, 23 (26.1%) offenders admitted to previous use of illegal drugs, while 49 (55.7%) indicated that they did not use drugs. There was no information on drug use for 16 (18.2%) sample members. No attempt was made to differentiate drug-using incest offenders on the basis of the kinds of drugs they used, or how long they had been using such drugs.

The incest offenders in this study demonstrated a strong preference for formal marriage, with 66 out of 88 (75%) being married at the time their offence was discovered. Of the remainder, 13 (14.8%) were in common-law relationships, 7 (8%) were separated, 1 (1.1%) was divorced, and 1 (1.1%) was single. As a group they did not have a history of several partners, or reflect difficulty in maintaining stable heterosexual relationships. Based on 87 records, 67 (76.1%) had not been involved in a previous marriage or common-law relationship, 18 (20.5%) had one previous relationship, and 2 (2.3%) indicated they had two previous relationships of at least six months duration. Their relationships were relatively enduring. Based on 85 records, the range of marriage duration was from a minimum of one year to a maximum of 36 years, with a mean of 11.4 years, and a standard deviation of 7.3 years.

Despite a commitment to the institution of marriage, 34 out of 75 offenders (38.6% of the whole sample) admitted to having had at least one extra-marital affair during their marriage. Forty-one offenders (46.6%) denied having had a sexual involvement outside of their marriage. There were 13 (14.8%) sample members on whom there was no information regarding extra-marital affairs. It is conceivable that some of these latter offenders will have had extra-marital affairs. Also, some of the ones who denied extra-marital involvement may have given spurious information so as to present to the psychologist a positive, but false, impression regarding their character.

The total number of children over which this sample of offenders had authority and responsibility was 282. The range of children per family was from a minimum of one child to a maximum of 11 (based on 88 records). The mean number of children per family was 3.3, with a standard deviation of 1.8. It should be noted that these figures are slightly inflated. Information was available, and included in the total sample data, for one offender who had sexually victimized children in two separate families. Three children were in one family, and six in the other.

Collectively, this sample of incest offenders molested a total of 117 children, or 41.5% of the children at risk over whom the offenders had some authority and responsibility. The children offended against included 50 natural daughters, 50 step-daughters, six nieces, two granddaughters, four adopted daughters, two foster daughters, two step-sons, and one female cousin. At the time of disclosure of the molestation, they ranged in age from three years to 22 years of age, with a mean age of 12.1 years, and a standard deviation of 4.2 years.

It was difficult to collect representative information on the varieties of verbally, physically, and sexually assaultive behaviours used by the offenders in the commission of their crimes. Such information might be useful for gaining deeper insights into the different behaviours and motives of the types of offenders developed from the cluster analysis. A serious limitation in accurate data collection arises here, however, because the offenders typically minimize their offence at the time of their apprehension. In a few cases, offenders had not yet been to trial, and therefore had been counselled by their lawyers not to divulge information regarding the circumstances of the offence. Cross-tabulation of the offender's testimony with the evidence given by the molested children to police or social workers can help in this regard. Discrepancies, however, between the legal testimony of the various parties involved, and in the degree of specificity of information gleaned by police or child protection interviewers tend to raise more questions than they answer. Also, more accurate information from the offender sometimes comes out later in therapy. But even here there are broad differences between offenders in the completeness and accuracy of the information which they are willing to disclose concerning their offence. These discrepancies could generate misleading comparisons between incest offender types, and so no attempt was made to collect information on offender behaviour in the commission of their offences.

Relative to offence behaviours, more accurate information was available regarding the duration of the sexual abuse. Even this, however, should be regarded as an underestimate because of the difficulty in getting accurate, reliable statistics. Duration, in this case, means the length of time between the onset of the initial incident and the cessation of molestation at the time of disclosure of the abuse to some authority. Frequency counts on the number of incidents of abuse were also collected. Again, there were some problems with the accuracy of this kind of information because of the offenders' need to minimize their own culpability, both in the eyes of the court, and often in the purview of their own conscience. To avoid any impression that pin-point accuracy was attained in estimating these parameters, 'abuse duration' was estimated in months. If a given offender admitted to only one incident of sexual abuse, then the duration figure attributed to that offender would have been one month.

The information that was collated should generally reflect a minimum, floor value for these variables - that is, the true duration and frequency count statistics should not be any lower than those figures cited, but may very well be higher. Given this proviso, the duration of the sexual abuse perpetrated by this sample of offenders ranged from one month to 14 years, with a mean duration of 25.8 months. The standard deviation of the distribution of 'duration' values was 33.5 months (based on 88 records). Rough estimates of the number of times the offenders molested a child within the duration period were based on 84 records. The range varied quite widely, from a low of one incident to an estimated high value of 576 times that were spread over 12 years of abuse. The average number of incidents of abuse per offender was 43.6, with a standard deviation for the entire sample of 97.

The high standard deviations for the duration and frequency of abuse variables indicates that the distribution of values for both variables is flatter than a normal distribution, with diminished central tendency, and is spread out with a broad range of values. A visual inspection of the duration of abuse values reveals a bimodal distribution with values falling into four approximate groups. A duration of 6 months or less for the incest was characteristic of 39 offenders (44.3% of the whole sample). Ten offenders (11.4%) molested their daughters for periods ranging from 6 to 24 months. Another large grouping of sample members (28, or 31.8%) offended for periods ranging from two to four years. In the last group there were 11 incest offenders (12.5%) who were sexually abusive of their children for five years or longer. These four groups account for 100% of the sample. From these figures it can be seen that the high duration values for the small latter group has contributed disproportionately to the average duration estimate for the whole sample. While one of the frequency peaks is in the two to four year range, nearly half the sample is accounted for by the first group whose offences lasted 6 months or less. Consequently, more information than the mean and standard deviation are needed to describe this sample with respect to the duration of abuse variable.

The same case holds for the frequency counts, or the number of incidents of sexual assault in the family. The values for this variable can be broadly grouped into five categories. Fifty offenders, or 56.8% of the sample molested their daughters 10 times or less before being apprehended. The second group consisted of nine offenders (10.2%) for whom the frequency of incest ranged from 11 to 25 incidents. Another nine offenders sexually violated their daughters 26 to 50 times prior to disclosure of the incest. A small group of five offenders (5.7%) admitted to frequencies ranging from 50 to 100 incidents of incest. The last group consisted of 11 incest offenders (12.5%) who had molested their daughters more than 100 times before intervention by police or Child Protection authorities. There were four offenders (4.6%) for whom data on frequency of incest was not available. Again we see some distortion of the mean frequency of sexual abuse by the larger figures of a small segment of this sample. This distribution of values is different from the distribution of duration values, showing a moderately strong positive skew, but with the skewed tail being flat rather than tapered. The mean and standard deviation of abuse frequency values need to be appraised in conjunction with this other, more detailed descriptive information.

How many of these incest offenders were themselves prior victims of sexual abuse? Of the 76 offenders for whom information on this question was available, 28 (31.8% of the sample) admitted to having been previously victimized sexually, while the remaining 48 (54.6% of the sample) indicated that it had not happened to them. There was no information in this regard on 12 offenders (13.6% of the sample). Of the 28 offenders who had been sexually assaulted, 26 indicated the relationship of the person who had offended against them. In almost half of these cases (12,or 46.2% of this smaller group) this turned out to be an unrelated male. The remaining 14 molesters included 2 fathers (7.7%), 1 step-father (3.9%), 2 uncles (7.7%), 3 brothers (11.5%), 1 grandfather (3.8%), 2 mothers (7.7%), and 3 sisters (11.5%). These percentages are proportions of the smaller group of sexually victimized offenders for whom this information was available.

Some of the offenders of this study gave an indication regarding the troubled nature of parent-child relations in their families of origin. Since information on positive or supportive relations was sketchy it was decided that, for the purposes of this study, only data on family-of-origin problems would be collated. Such data were more focussed and specific. Where information was available, 28 of 37 offenders, or 75.7% (31.8% of the whole sample) described only their fathers or father surrogates as alcoholic, 3 of 37, or 8.1% (3.4% of the whole sample) had alcoholic mothers or mother surrogates, and for 6 of 37, or 16.2% (6.8% of the whole sample) both of their parents were alcoholic. Thus, 42% of the offenders in the study sample were adult children of alcoholics. The remaining 58% either had non-alcoholic parents, or else information on this variable was not available.

Family-of-origin violence was experienced by at least 26 of the offenders, or 29.5% of the sample. Of these, 19 or 73.1% (21.6% of the whole sample) indicated that only their father or surrogate father was physically abusive. By contrast, 4 offenders or 15.4% (4.6% of the whole sample) indicated that only their mother or surrogate mother treated the offender and/or other children in the family in a physically abusive manner. Three offenders or 11.5% (3.4% of the whole sample) indicated that both parents were physically abusive.

Information on sexual abuse in offenders' families of origin was the least readily available. Nine offenders, or 10.2% of the sample indicated an awareness that their parents were sexually abusive of the children.

Out of these 9 cases, there were 6 in which the father was the only offender, and 3 where the mother was the only offender. There were no cases where both parents were sexually abusive of the children. In 3 of the 6 cases where the father was the molester, and in 2 of the 3 cases where the mother was sexually abusive, the reporting offender in this study was the abused child. It is quite likely that other children in some of these families were also sexually victimized, but information on this issue was too scant to be systematically collected.

There were 47 records, or 53.4% of the sample, in which the offender indicated troubled relations in his family of origin. In 81% of this sub-group there was alcohol abuse, and often other problems. A more detailed analysis of this reveals that there were 17 homes (19.3% of the whole sample) where one or both of the parents were alcoholic, 16 cases (18.2%) of alcoholism and violence, 1 case (1.1%) of alcoholism and sexual abuse, and 4 cases (4.6%) of alcoholism concomitant with physical and sexual abuse. In offenders' families of origin where alcoholism was not a significant dynamic, 5 (5.7%) reported the presence of violence, but no sexual abuse, 3 (3.4%) indicated an awareness of sexual abuse in the family, and 1 (1.1%) revealed that there had been both physical and sexual abuse in his family. The above data concur with other descriptions of samples of incest offenders that point out the common prevalence of disturbed family backgrounds.

This concludes a presentation of the aggregated demographic descriptors of this sample. Relevant differences between offender sub-types on these descriptors will be discussed in the next chapter. Next, the aggregated test results for the whole sample are presented.

Whole-Sample Test Results

The means and standard deviations for the 22 PRF-E scales for the 88 incest offenders are given in Table 1, below. This is followed by similar aggregated data for the sample's MMPI results in Table 2.

Table 1

PRF-E T-SCORE DATA FOR 88 INCEST OFFENDERS

Scale	Mean (M)	Standard Deviation (SD)
Abasement (Ab)	51.11	10.66
Achievement (Ac)	47.31	9.76
Affiliation (Af)	49.41	10.29
Aggression (Ag)	48.86	10.52
Autonomy (Au)	35.36	6.87
Change (Ch)	42.77	8.61
Cognitive Structure (Cs)	51.64	8.95
Defendence (De)	50.72	10.24
Dominance (Do)	42.98	9.37
Endurance (En)	47.67	9.68
Exhibition(Ex)	43.64	8.02
Harmavoidance (Ha)	55.33	8.18
Impulsivity (Im)	49.71	10.18
Nurturance (Nu)	50.99	8.81
Order (Or)	51.25	8.31
Play (Pl)	42.71	6.64
Sentience (Se)	40.53	8.30
Social Recognition (Sr)	51.33	7.00
Succorance (Su)	55.43	8.09
Understanding (Un)	39.05	9.95
Infrequency (In)	51.27	9.82
Social Desirability (Dy)	48.43	11.72

Table 2

MMPI-R T-SCORE DATA FOR 88 INCEST OFFENDERS

Scale	M	SD
Lie (L)	53.85	8.82
Frequency (F)	58.91	10.04
K	54.26	9.15
Hypochondriasis (Hs)	59.60	13.98
Depression (D)	67.11	14.32
Hysteria (Hy)	62.55	9.53
Psychopathic Deviate (Pd)	68.94	11.02
Masculinity-Femininity (Mf)	62.44	9.83
Paranoia (Pa)	61.83	10.11
Psychasthenia (Pt)	63.66	12.41
Schizophrenia (Sc)	62.14	13.78
Hypomania (Ma)	57.46	9.26
Social Introversion (Si)	56.94	11.39

Of particular importance in these obtained MMPI scores is the absence of T-scores above 70, suggesting the relative normality of this sample of incest offenders with respect to psychopathology. The D and Pd scales, however, approach significance, particularly given the larger standard deviation on the MMPI Depression scale. Within the sample, however, there are distinct sub-groups discerned through cluster analysis for whom psychopathology, as indicated by significant MMPI T-scores, is more in evidence. These differential results will be discussed later when the characteristics of incest offender sub-types are described.

PRF-E Intercorrelation Matrix

The PRF-E intercorrelation matrix for the entire sample is listed in Appendix A, Table A-1. For comparison purposes, the PRF-E intercorrelation matrix of 2215 enlisting applicants for the Canadian Armed ~~Forces,~~ taken from Jackson (1974, p. 49), is included on the same page.

There are some differences between these two samples' PRF-E intercorrelation matrices that reflect differences in need-based motivations. The largest discrepancy is on the Affiliation-Autonomy correlation. For the military sample, a greater need to socialize correlated with a greater need for autonomy (.33). This is not easy to explain (unless the minus sign indicating an inverse relationship between these two variables was missed in a printing error). For the incest offender sample there is an inverse relationship between these variables - greater affiliation was associated with a diminished need for social distance or autonomy (-.37). This would be congruent with the dependency often observed in incest offenders. In the same vein, Nurturance is reasonably well-correlated with the need for support, affection, and caring (Succorance, .54), and with the need to be sociable (Affiliation, .63) in the offender sample. Similarly, Affiliation is associated with Succorance at .55. This offers further evidence that incest offenders tend to view their interactions with others in terms of dependency, both in giving and receiving support. For the enlistee sample, the relationship is also positive, but not as strong (.25 for Nurturance-Succorance, .41 for Affiliation-Nurturance, and .27 for Affiliation-Succorance).

The obverse of the dependency dimension in the incest offender sample seems to be related to an extrapunitive rejection of dependence rather than an independence based on self-confidence that accepts and respects the autonomy of self and others. Consequently, Aggression and Autonomy are related .35 (.13 for the enlistees), Defendence and Autonomy correlate .34 (.06 for the enlistees), and Succorance varies inversely with Aggression and Defendence at -.23 and -.22, respectively (-.03 and -.01 for the military sample). In the incest and military samples, Aggression and Impulsivity show correlations of .47 and .42 respectively, indicating a relationship between poor impulse control and aggressiveness. While this observation is obviously not a pioneering breakthrough, it establishes a conceptual link between the Impulsivity construct and a rejection of two-way supportive dependency in the interpersonal relations of a sub-set of the incest sample. Additional evidence of this is seen in negative correlations between Impulsivity and Affiliation (-.44), Nurturance (-.48), Succorance (-.25), and Abasement (-.31). The military sample showed comparative correlations of -.15, -.20, -.09, and -.10, respectively. Impulsivity correlated positively with Defendence at .41 (.23 for the enlistees). The PRF-E intercorrelation matrix reflects a grouping of Aggression, Autonomy, Defendence, and Impulsivity, that varies inversely with Affiliation, Nurturance, Succorance, and Abasement. In contrast to the enlistees, greater covariation in the offenders' patterns of scores suggests a stronger inter-trait relation that is more distinct and organized, and more likely to induce behavioural correlates of these need-motivations.

Rejection of dependence is not a true independence, or freedom from dependence, because of fear of threat (Defendence), reduced flexibility in one's interpersonal style (Aggression), and diminished deliberateness and control in decision-making (Impulsivity). It is likely that the above-described groupings of PRF-E intercorrelations reflect input from incest offenders whose need-based motivations are organized around opposite poles of the dependency dimension. These distinctions will become more obvious when incest offender sub-types which generate these differential responses are described below.

The use of the PRF-E with a sample of criminal offenders, many of whom were awaiting trial or sentencing, and all of whom had violated a major social taboo, would certainly be an acid test of the PRF-E's vulnerability to a social desirability response set. Six scales correlate between .49 and .64 with the Social Desirability scale, with six more scales between .30 and .49. This suggests that Jackson has been partially successful in developing a personality inventory with minimal distortion from social desirability bias. It also suggests, however, that the test evidences psychometric 'strain' when used with samples, such as a group of incest offenders in a forensic setting, that differ significantly from the original norming group.

MMPI and PRF-E Intercorrelation Matrix

Intercorrelations for the MMPI scores and PRF-E scores for the sample of incest offenders are listed in Table A-2 in Appendix A. The results provide some construct validity for Jackson's PRF-E. Special attention should be given to the Social Desirability scale (Dy) since 7 of the 13 MMPI scales have absolute correlations with it that are greater than .40. Dy co-varies positively with the Lie and K scales at .42 and .44, respectively, confirming its function as a validity scale. Since Dy has a negative correlation with all other MMPI scales, one could reasonably hypothesize that low scores on Dy will likely be associated with low self-esteem, poor self-image, diminished social and personal effectiveness, and probably the presence of psychopathology.

The MMPI Social Introversion (Si) scale provides evidence of construct validity for the PRF-E through its negative correlations with PRF-E interpersonal scales such as Affiliation (-.67), Dominance (-.34), Nurturance (-.45), and Succorance (-.40), and with Exhibition (-.53). Also, it correlates positively with Autonomy at .26.

One would expect low levels of drive and energy to be associated with the MMPI Depression and Psychasthenia scales. This is borne out by the obtained results. The PRF-E Achievement scale correlates inversely with them at -.33 and -.42 respectively. Similarly, the PRF-E Endurance scale correlates negatively as well, at -.38 and -.40, respectively.

There was only light evidence for the construct validity of the PRF-E Harmavoidance scale, with small negative correlations of -.11 and -.12 being obtained on the MMPI Psychopathic Deviate and Hypomania scales, respectively.Also, one would have expected a stronger correlation between PRF-E Defendence and the MMPI Paranoia scale (.18). The strongest correlation with Defendence (apart from the MMPI validity scales) was on the Psychopathic Deviate scale (Pd), at .39. This was also the highest correlation between Pd and any of the PRF-E scales. Since the incest offenders as a group scored highest on the Pd scale, the latter correlation has special significance for a description of offender traits.

Factor Analysis Results

The data structure was further analyzed through factor analysis. Although Jackson sought to minimize inter-scale correlations when developing the PRF-E, the intercorrelation matrix derived from this study (Table A-1, in Appendix A) indicates that there are important covariations between some of the variables. The approach used to simplify the variable structure involved a principal axis analysis with iterated communalities, and a rotation of the axes to a varimax criterion using the FACT20 computer program (Hunka, 1980). Only four of the eigenvalues had a magnitude greater than 1.0, indicating that a four-factor solution would probably be optimal and parsimonious. In a five-factor solution, the fifth factor loaded primarily on the Succorance variable, but that variable by itself accounted for more of the common variance than did the fifth factor. A graph of the eigenvalues - Cattell's (1966) scree test - also revealed a significant decline in the contribution to common variance made by more than four factors. Consequently, the four-factor solution was judged the most satisfactory. The loadings of the PRF-E variables on each of these four factors are presented in Appendix A, Table A-3.

As might be expected from any personality assessment instrument, the PRF-E variables are not factorially pure. In this study, however, several of the variables (Autonomy, Change, Play, Sentience, Social Recognition, Succorance, and Understanding) show relatively low cross-factor correlations. Also, a perusal of Table A-3 reveals that many of the communalities are relatively low. The unique component of variance is greater than 50% for about half the variables, and 60% or more for six of them. This appears to be a satisfactory differentiation of distinct need-motivation variables upon which to organize a typology. If the variables were less differentiated, i.e. more intercorrelated, then interpreting incest offender sub-type differences on PRF-E constructs could be problematic.

Of the four factors extracted from the data, the first, containing the largest amount of the total variance explained by the factors, loaded heaviest on Affiliation, Nurturance, and Succorance, and negatively on Autonomy. It is characterized by caring, needing acceptance, dependency, and socializing. The factor was called 'Interpersonal Closeness', as this term seemed to capture the underlying commonality of these traits.

The second factor loaded on Cognitive Structure, Endurance, Order, Social Desirability, and negatively on Impulsivity and Play. It involves a strong task, as opposed to interpersonal, orientation, a need for direction and orderliness, some rigidity, seriousness, and a control or suppression of spontaneity. It is similar to the Impulse Control factor found by Zivich (1981), and was called 'Dutiful Self-Control'. This will likely be a "black-and-white" view of things related to a somewhat inflexible approach to task accomplishment (Achievement also loads .502 on this factor). The fact that Social Desirability also loads on Factor II in combination with the other needs suggests that this factor includes a positive self-image component arising from elements like adhering to traditional values and "doing the right thing".

Factor III loads on Achievement, Change, Exhibition, Sentience, Understanding, and negatively on Harmavoidance.

It also loads heavily enough on Dominance that this was included as a defining variable even though Dominance has a somewhat higher correlation with Factor IV. It was felt that the interpretability of the factors would be enhanced by adopting this approach. Factor III has aspects of the Practical factor found by Siess and Jackson (1970) and the Intellectual/Aesthetic Interests factor replicated by Zivich (1981), but it differs from both of these in the breadth of its variable composition. Because it includes aspects of extroversion, risk-taking, leadership, need for variety and accomplishment, as well as sensory openness, this factor most likely involves a strong need for stimulation and novelty in the context of controlling and directing others. Factor III was labelled 'Stimulus-Seeking Social Ascendency'.

Aggression, Defendence, Social Recognition, and negative Abasement loaded heavily on Factor IV. In addition, Dominance and Exhibition had significant correlations with this factor. These scales, plus the distribution of other loadings suggest a threat-sensitive control for the sake of control. The needs of others are of no importance. There is an approval-seeking aspect in the organization of this need-motivation factor, and being in the spotlight has the purpose of allowing others the privilege of meeting this need. The need for attention and approval seems to be at the expense of the needs of others.

This suggested the title of 'Self-Centered Authoritarian Control' for Factor IV.

The results of this factor analysis differ from the outcome of a study by Zivich (1981) where six factors were found. There was some overlap with Zivich's replication of Nerviano's (1976) Dependency, Defendency, Impulse Control, and Intellectual/Aesthetic Interests factors. The differences, however, suggest that the organization of need-based motivational dynamics in incest offenders may differ from non-offending alcoholics. The assumption here, of course, is that the samples of alcoholics studied by Zivich and Nerviano contained no incest offenders. Given the relatively high prevalence rate of incest, this is probably not an accurate assumption. On the other hand it is doubtful if their test results were biased by the presence of large numbers of apprehended incest offenders since their sample members were garnered from alcoholism treatment facilities.

As a rough measure of comparative differences, a principal components analysis was conducted on the data from the present study since this was the type of factor analysis used by Zivich. The number of target factors was set at six, Zivich's (1981) factor matrix was input as the target matrix, and an orthogonal procrustes rotation was used to match the two matrices as closely as possible. The average error in matching was 16.8%. Zivich's Factors III and IV were replicated on their primary loadings, but there was only partial overlap in the variable composition of two other factors. Also, Factor V loaded on Exhibition and Play but with a fairly high (and unusual) loading on Aggression, and Factor VI loaded negatively on Social Recognition. The results of this exercise confirm that the factor structure influencing covariation in the PRF-E test results of incest offenders is quantitatively and qualitatively different than that found with Zivich's sample of non-offending alcoholics.

Cluster Analysis Results

The incest offenders' PRF-E data set was analyzed into similar groups using The cluster analysis approach described in chapter 3. A visual examination of the series of error sums of squares values output by Ward's (1963) minimum variance method on Clustan (Wishart, 1978) showed accelerating increases in error at 8, 5, and 3 clusters. This suggested probable stopping places in the clustering procedure at 9, 6, and 4 clusters (Ward & Hook, 1963). The error sum of squares generated after four clusters (i.e. at the level of one, two, and three clusters) was large enough to indicate that these clusters were being inappropriately forced together by the algorithm. Solutions involving less than four clusters likely did not accurately reflect the underlying group structure of the data. Three-, two-, and one-cluster solutions to the cluster analysis were therefore rejected.

Given the relative homogeneity of this sample, the principle of parsimony should govern the decisions leading to the clustering solution. Within limits, the fewer groups the better since they would be more easily interpretable. Potential solutions involving more than ten clusters were considered excessive. Consequently, the range of potential solutions to the cluster analysis was from nine to four clusters.

To pare down the number of possible clustering solutions, Mojena's Rule 1 (1977) was applied as an empirical decision-making tool to the range of potential solutions. Using this more formal stopping rule, the range of possibilities was reduced to 6, 5, or 4 clusters as the potential optimal solutions to the cluster analysis. Only 5 and 4 clusters fit strictly within the rule, but a 6-cluster solution was included as a possible solution because it was very close to the upper exclusion criterion. The next step in the analysis was to determine which of these possibilities was the optimal cluster analysis solution.

Cluster-Solution Validation

A four-step validation procedure, as described in Chapter three, was used to resolve the cluster solution problem. Step one involved testing the robustness of the three potential cluster solutions under four of the different conditions of Wishart's (1978 pp. 44-45) global optimal solution test. Clustan's Relocate procedure used Euclidian distance coefficient 24 (error sum of squares), as in the original cluster analysis, but the starting position for the relocation process in condition one involved ten random clusters, and it involved the nine-cluster cycle of the original hierarchical cluster analysis in condition two. This is in contrast to the original starting position of the ten-cluster cycle of Ward's method. Identical group memberships were found for four-, five-, and six-cluster solutions as were found in the original cluster analysis (i.e. 100% cluster membership recovery). Thus, these two tests were not useful in differentiating which solution was optimal, but they did suggest that these cluster solutions were reasonably stable. Conditions 3 and 4 both used a starting point of ten random clusters. Condition three substituted coefficient 29, an index emphasizing cluster size differences, for coefficient 24 in the Relocate routine. Condition four substituted coefficient 30, which focusses on profile pattern differences, for coefficient 24 as used in the original analysis. These two tests did not reproduce 100% of the original cluster membership, as did conditions one and two. Consequently, none of the three proposed cluster solutions meets Wishart's criteria for a globally optimum solution. However, of the three potential solutions, a four-cluster solution recovered more of the original group membership than did either a five- or six-cluster solution under conditions three and four (see Table 4.1). The four-cluster solution was therefore deemed the most efficient of the three in this test.

Table 3

Wishart's Global Optimum Cluster Solution Test:
Percentage Recovery of Original Cluster Membership

# Clus.	coef. 29	coef. 30	average of 29 + 30
4	48.86%	52.27%	50.57%
5	37.50%	42.05%	39.77%
6	40.91%	39.77%	40.34%

The second validation test involved randomly dividing the sample into two subsets of data, and then clustering each subset separately. Ideal results (i.e. perfect replication of the original clusters) were not achieved. The greatest recovery of the original group membership was again found with a four-cluster solution (59.09%). The five-cluster split-half test reproduced 53.4% of the original five-cluster solution, and the six-cluster test found 51.12% of the original six-cluster membership.

In the third test, each of the three potential solutions were subjected to a linear discriminant analysis with computer program MULV02 (Hunka, 1981). In all three cases the separation was significant. F-test values for 21 PRF-E variables in each of four-, five-, and six-cluster solutions are presented in Appendix A, Table A-4. The clearest separation was found with the four-cluster solution which was therefore considered the optimal solution on this test.

The final test in this series involved a reclassification of members into either four, five, or six groups using the multivariate classification computer program MULVO3 (Hunka, 1980). In this study there were no errors in classifying members into six clusters, one classification error with five clusters, and two errors with four clusters. Given that Ward's clustering algorithm will necessarily generate more total within-groups error sum of squares for four clusters than for six clusters, this outcome was reasonably predictable. Consequently, the outliers in a four-cluster solution will tend to overlap more with other groups than will be the case for a six cluster solution. Consequently, this increases the likelihood of misclassification by MULVO3.

Under the conditions of tests one, two, and three, above, the four-cluster solution performed best. In the fourth test, the six-cluster solution was optimal. It performed better than the four-cluster solution, but the difference (zero errors versus two errors out of a possible 88) was not very large. Overall, the four- cluster solution was considered the best of the three.

Cluster/Type Descriptions

The cluster analysis determined that the four groups were of the following size: ~~I = 18~~, II = 34, III = 21, and IV = 15. The PRF-E mean and standard deviation scores for these four typal categories are presented in Appendix A, Table A-5. MMPI mean and standard deviation scores for the four groups are presented in Appendix A, Table A-6. Demographic means and standard deviations characterizing aspects of the four types of incest offenders are presented in Appendix A, Table A-7. A discussion of the relevance of these between-group statistical differences will be presented in the next chapter.

Group Differences on Specific Variables

The final analysis in this study involved a one-way multiple analysis of variance of PRF-E variables, and a separate analysis for the MMPI variables. At a 95% confidence level calculated simultaneously for all variables, a significant difference in the means on variables distinguishing groups was obtained only on the PRF-E Affiliation variable between groups one and three. Only three other mean differences approached significance: Affiliation , between groups one and two; Social Desirability between groups one and two; and Social Desirability, between groups two and four. The remaining comparisons between group means on PRF-E variables were not statistically significant.

On the MMPI contrasts, significant differences between group means were only found on the Social Introversion scale between groups one and two, and one and three. The remaining contrasts between all groups on all MMPI variables did not reveal any significant differences nor any differences approaching statistical significance.

This concludes a presentation of the results of this study. The relevance of these results is discussed next.

Chapter Five

DISCUSSION OF THE RESULTS

Introduction

Prior to elaborating on the incest offender sub-types derived from this study, the study sample will be compared with other samples in the literature on some key characteristics. This will permit an estimate of the generalizability of this typology to other samples of incest offenders.

Whole-Sample Characteristics

Age.

In most of the previous studies, the offenders being investigated were somewhat older than those in the present study. Weinberg (1955) studied 203 cases of incest. The mean age of the fathers was 43.5 years, compared with 37.6 years in the present study. In the Gebhard et al. (1965) study of 147 incarcerated father-daughter molesters, (a) incest offenders versus children (under 12 years of age) had a median age of 36.6; (b) incest offenders versus minors (12 to 15 years old) had a median age of 40.8; and (c) incest offenders versus adults (16 and older) had a median age of 49.5. These offenders would average out to being a little older than the present sample. Cavallin's (1966) 12 imprisoned incest offenders were 39 years of age on average when apprehended. Panton (1979) found a mean age of 40.6, and Scott and Stone (1986) found a mean age of 40.7 in their respective samples. In Lukianowicz's (1972) study, 26 molested daughters had fathers who were approximately 32.5 when they initiated the incest. Since the mean abuse duration was 8 years, it is estimated that they were somewhat over 40 on average at the time the incest was disclosed, which is the way the age figure was calculated for the present study. Although the incest offenders in the present study averaged somewhat younger than those found in previous research, the difference is probably not significant.

Intelligence.

The present sample of incest offenders had an average estimated or actual Full-Scale I.Q. of 96.6. This is somewhat lower than the mean I.Q. of 102 discovered in Cavallin's (1966) group, although still well within the Average range. Similarly, Lukianowicz (1972) and Meiselman (1978) had impressions of average intelligence, but did not cite psychometric test figures. The mean I.Q. of Panton's group of incest offenders was 98.9. These more recent estimates, including the present study, differ from Weinberg (1955) who found that 64.3% of his offenders were of dull-normal intelligence or less (i.e. I.Q. $<$ 90). As will be seen below, one of the four sub-types in the present study was characterized by a mean I.Q. in this range. Perhaps Weinberg's sample consisted of a preponderance of this type of offender.

Education.

The present sample averaged 10.3 years of education. This contrasts sharply with Weinberg's sample where the perpetrators evidenced a mean of approximately 5 years of education. Panton's incarcerated incest group is more in line with the present findings, with a mean education level of 9.5 years. Scott and Stone's sample seems to be an exceptionally well-educated group in comparison to other samples of incest offenders. All of the 33 fathers and 29 step-fathers had completed high school; some college education was reported by 42% of the fathers and 31% of the stepfathers; college graduation was reported by 12.1% of the fathers and 6.9% of the stepfathers. This may be a higher socio-economic status sample than is typically reported in the research literature.

Perhaps education differences between various groups of offenders reflect a cohort artifact. Most studies report offenders' ages in the near-40 range. This gives a rough matching of samples on the age variable. It seems reasonable that a sample of incest offenders investigated three decades ago would probably not have had the educational opportunities during their school-age years that would have been available to a similarly aged sample investigated today. An interesting example of this can be constructed from the Gebhard et al. (1965) data. As discussed above, as the age of the molested daughters increased (i.e. progression from the categories of incest offenders versus children, to minors, to adults), the age of the offenders also increased (ibid., Table 2, p. 46), which is natural. Older daughters generally have older fathers. As the age of the offender increased, his educational achievement declined (ibid., Table 4, p. 48). The pattern of Gebhard et al.'s data-gathering structure (i.e. sorting offenders into categories distinguished by the age of the molested daughter) approximates a stratified-sample design in longitudinal research. Differences in years of education are apparent between the cohorts. The relatively higher education levels of the younger offenders may reflect an increase in the availability of educational opportunities in more recent years. If the cohort artifact hypothesis holds true, future studies should discover a gradually increasing level of educational achievement among apprehended incest offenders.

Such a finding, however, would also mean that the negative correlation between the age of the molested daughter and the offenders educational achievement has a spurious relation to the incest dynamics. This issue may confound socio-economic differences between samples of incest offenders if education level is used as an index of socio-economic status in future studies.

Stepfathers versus natural fathers.

Russell's (1984) study suggested that because natural fathers have the incest taboo as an additional constraint on their behaviour they will be less likely to offend against their daughters than will stepfathers (and probably other surrogate father-figures as well). In the present study there were equal numbers of fathers and stepfathers or non-natural father-figures (41 of each type), and they molested equal numbers of their children (50 in each case). In the Scott and Stone study, 33 natural fathers and 29 stepfathers molested equal numbers of their children.

If it is assumed that in the general population there are fewer stepfathers than natural fathers having authority over female children, as suggested by Russell's study, then the approximately equal numbers of offenders in each category points to a higher risk factor for incest for stepchildren than for natural children. Alternatively, if an equal probability of offending for fathers and stepfathers is assumed, then, compared with natural fathers, stepfathers are more likely to be turned in to the police when the incest is discovered. If this hypothesis were true, then the incest taboo does not offer any additional protection from molestation for the daughter at risk, but family/blood-ties offer greater protection from the police for the natural father who sexually assaults his daughter.

Alcohol abuse.

Finkelhor (1984) has pointed out the importance of alcohol as a disinhibitor for incestuous impulses. The correlation of alcoholism with incest has been cited frequently in the research literature. Five studies comparing alcohol abuse among different kinds of sex offenders were summarized by Aarens et al. (1978). They found that alcohol abuse was more pervasive among incest offenders than with other sex offenders. Compared with the present study's findings of 60.2% alcohol abuse among the perpetrators, Virkkunen found 48.9% among his 45 cases of incest. Virkkunen also cited a dozen studies of incest offenders where approximately 50% or more of the offenders abused alcohol. Many of these studies were reported in European journals, suggesting that the association of alcohol with incest is as common cross-culturally as is incest itself.

Various studies have found varying degrees of alcoholism in their samples. In the Lukianowicz (1972) sample, 4 of 26 offenders (15.4%) were deemed alcoholic, while 8 of 11 (72.7%) were alcoholic in the Kaufman, Peck, and Tagiuri (1954) sample. Perhaps sampling bias with small groups elicits these differences. An alternative explanation would be that the inclusion criteria for defining alcoholics are non-standardized, and therefore vary from one study to another. With few exceptions, however, the percentage of alcoholics found in the present study is within the range commonly found in the incest research literature.

Psychopathology.

The aggregated MMPI results for the present sample of incest offenders show no scales with a T-score greater than

70, suggesting that the sample as a whole is relatively normal. These results are very similar to Panton's (1979) except on scale 4 (Psychopathic Deviate), where he found a T-score of 70.3 compared with 68.9 in the present study. Finkelhor (1984, p. 100) notes the increasingly common finding of large numbers of normals among research samples of incestuous fathers. Groth (1982, p. 215) says that

> Those persons who commit incest cannot be distinguished from those who do not - at least in regard to any major demographic characteristics. Such offenders do not differ significantly from the rest of the population in regard to level of education, occupation, race, religion, intelligence, mental status, or the like. They are found within all socio-economic classes.

It is possible, however, that the group averaging process could flatten the group MMPI profile, as suggested by Goldberg (1972). In fact, as described below, two of the four sub-types derived from the PRF-E in this study showed distinct patterns of psychopathology when the MMPI profiles for these sub-types were aggregated. This outcome clearly underscores the importance of delineating sub-types rather than working with whole-sample incest offender data.

The more specifically delineated results of the present study are generally in keeping with the findings of the research literature that a small sub-group of offenders with psychopathology is frequently found in many studies (Maisch, 1972; Medlicott, 1967; Meiselman, 1978). If the psychopathology is of a psychotic nature it is more likely that the offender would be treated at a mental hospital rather than a prison where many of the older studies were conducted. This would contribute to sampling bias in the findings of small numbers of mentally ill incest offenders in research samples. Although overt pathological symptomatology is less seldom seen when the incest is still a family secret, it is more common for it to break out after disclosure of the incest or subsequent incarceration (Cavallin, 1966; Lukianowicz, 1972; Weinberg, 1955; Weiner, 1962). If this occurred, it would suggest that the pre-incest personal adjustment of the offender was not overly stable, and that the stress of incest disclosure, family-breakup, or incarceration exceeded the coping capacity of the offenders psychological resources.

Perhaps the more frequent finding of paranoid thinking in offenders (Cavallin, 1966; Meiselman, 1978; Raphling, Carpenter, & Davis, 1967; Weiner, 1962) is of greater relevance to a study of incestuous fathers than are the less common incidents of incipient or florid psychosis. It is difficult to separate the effects of legal disposition of the incest offender from his pre-incest level of psychological adjustment. Paranoid thinking would probably be a reasonable personality characteristic in an incarcerated incest offender, given the negative attitude of other prison inmates toward child molesters of any variety. Not all of the above-mentioned samples were drawn from prisons, however, which suggests that the findings of paranoid thinking may be a reflection in some samples of poor pre-incest psychological adjustment. One of the sub-types found in the present study shows some similarity to, what Meiselman (ibid., p. 102) refers to as, the paranoid personality disorder.

In conclusion, it would seem that the present sample of incest offenders is sufficiently similar to the samples investigated in previous studies, particularly the larger, more recent studies, to warrant generalizing the resulting typology to the broader population of father-daughter incest offenders.

Four Incest Offender Sub-Types

The following description of incest offender sub-types draws largely from the aggregated data on these typological categories presented in Appendix A, Tables A-5, A-6, and A-7.

Common PRF-E patterns across sub-types.

There are four relevant and common patterns with respect to the PRF-E scores for all four sub-types. First, the low mean scores on Autonomy, and the relatively small standard deviations indicate a consistent aversion to being alone that is pervasive throughout the sample. Since all four types are average or higher in their need for the supportiveness of others, this combination of needs suggests a sensitivity to rejection. If the offender's marriage was dysfunctional (which is an observation frequently reported in the literature from a family systems model of incest (Cormier, Kennedy, & Sangowicz, 1962; Lustig, Dresser, Spellman, & Murray, 1966) he is more likely to turn to his children for solace because they typically lack the social power to be assertively rejecting of his sexual advances.

A second pattern suggests that since the Harmavoidance T-scores for all types did not fall below 50, this indicates that the offenders in this sample were generally not risk-takers. The MMPI Paranoia T-scores for all groups were not above 70, and the Harmavoidance variable did not correlate significantly with any MMPI scale, particularly Paranoia. This indicates that the Harmavoidance scores should not be construed as representing the paranoid thinking found in other studies of incest offenders.

Third, pervasive seriousness was a common trait observed by the writer in his therapeutic work with groups of incest offenders. This observation is supported psychometrically in the present study by Play needs that were below average across all groups. In addition to a diminished sense of humor, incest offenders in this sample may also have difficulty experiencing sensory pleasure. The low mean scores on Sentience are suggestive of anhedonia. It may be that a powerful sensory experience, like sex, is necessary for experiencing physical pleasure; other sensory experiences may not be intense enough to reach the incest offender's awareness threshold of sensory pleasure. The psychological experience of difficulty in "letting go" can be temporarily ameliorated by the disinhibiting effects of alcohol. The widespread use of alcohol by this sample may be a coping strategy to allow them to experience more than a minimal degree of physical pleasure. Obviously, a second strategy they use is sex. The post-ejaculation phase of parasympathetically-induced relaxation would allow them some indirect control over an involuntary means of experiencing sensory pleasure and temporary relief from tension. This hypothesis of an elevated sensory awareness/pleasure threshold in incest offenders is testable, but must remain speculative for the moment.

A fourth consistent pattern in the PRF-E scores which may shed some light on the dynamics of father-daughter incest in this sample of offenders is the combination of low scores on need for Change or variety, and Understanding. Below average intellectual curiosity suggests a narrow, and possibly shallow, outlook, and little interest in examining their own motives or behaviours. Comfortableness with repetitive routines points to the importance of social intervention with the incestuous family because the molestation is more likely than not to continue with its own momentum. From the offender's perspective there are few reasons to stop and many reasons to continue. The low scores on need for Understanding also suggest that the offender is not oriented toward cognitive self-management. Insight therapy may be less effective than a method stressing consequences, or more concrete behavioural approaches.

Contrasts Between Offender Sub-Types

Type I incest offenders (n=18, or 20.5%).

Psychopathology, in terms of significant MMPI scores, was seen only in Types I and IV. On the MMPI, Type I members averaged the highest scores on scales 2, 7, and 0 (Depression, Psychasthenia, and Social Introversion). There are several patterns of scores that may elucidate this finding. On the PRF-E, this group scored lowest in both need for Autonomy, need for Affiliation, and need for attention (Exhibition), indicating that they tended to be more introverted, shy, and socially withdrawn. This constellation of needs represents an avoidance-avoidance conflict (Dollard & Miller, 1950). The offender does not want to be alone, yet he is uncomfortable being with people, possibly because he fears them. This group had the highest proportion of offenders who had previously been sexually victimized (38.9%). Type I offenders scored highest on Social Introversion on the MMPI, indicating that they will prefer to live with the, probably aversive, feelings of being alone rather than having to experience the emotions that arise when they deal with people. It is suggested here that the consequences of this choice contribute significantly to the strong depression indicated on the MMPI.

Being shy and withdrawn did not stop them from getting married, and staying married. Group I had the lowest rate of remarriage (16.7%), and consequently the smallest proportion of stepfathers (38.9%) of any of the groups. Type I offenders had also been married the longest, with a mean of 12.6 years. The fact that their score on need for Change or variety was the lowest probably contributed to their marital longevity. Perhaps they also dreaded having to start meeting women all over again, or were phobic about being in the spotlight in another wedding ceremony. Whatever their motivation, Type I offenders appear to be more monogamous and endogamous than the other three Types--they admitted to the lowest proportion of extra-marital affairs (27.8%).

The lowest mean scores on Achievement motivation and Endurance were found with Type I offenders, suggesting that they evidenced the lowest level of drive of the four Types. Surprisingly, they had the second highest amount of education (10.6 years), and the highest level of employment at the time of disclosure (94.4%). Given their low need for Change, as well as the lowest mean score on Dominance, one would expect that their employment was likely protected by job security, or that they held jobs with low status that were not subject to high competitiveness. Alternatively, they may have had poor job stability, and changed jobs frequently but with periods of low unemployment duration between jobs. In any case, it is more likely that they were passed over for promotion because of diminished drive and social presence. It would not be surprising if a weak sense of achievement also contributed to their depression.

Almost by definition, people characterized by psychopathology have fewer psychological and social resources for coping with their problems. Type I offenders had the second highest level of alcohol abuse (72.2%), exceeded only by the other group with significant MMPI indices of psychopathology, Type IV (80%). It is interesting that both of these groups, compared to the other two groups, were characterized by psychopathology, alcohol abuse, the highest proportions of natural fathers, and the shortest mean durations of sexual abuse. There are other differences, however, which clearly distinguish these two Types of offenders. For example, Type I had the lowest number of abuse incidents, while Type IV had the highest number. Perhaps the shorter abuse duration figures of these two Types can be explained by the families' efforts, by whatever means, to get help for the natural fathers who had more blatant personal problems. The bonding by other family members with the stepfathers may not have been as strong, and the effort to get help for them may not have been as motivated, particularly with the other two groups, Types II and III, whose pathology picture was less in evidence.

Perhaps the duration of abuse perpetrated by Type I offenders was the lowest because their daughters were the eldest (mean age = 13.19 at disclosure). It may have been easier for somewhat older children to contemplate disclosure when the father was so inadequate, passive, and distant compared to the other three Types.

The primary distinctions noted above characterize Type I incest offenders. The term "Schizoid" is a fairly good summary rubric for this Type. From a psychoanalytical perspective,

> This type often presents a complaint of depression. They complain of feeling cut off, of being isolated and out of touch, of feeling apart or estranged from people and things around them; ... of diminishing interest in things and events around them, of feeling that life is futile and meaningless. ... The schizoid's major defense against anxiety is to keep emotionally out of reach, inaccessible, and isolated. The schizoid condition is based on the internalization of hostile, destructive introjects. (Kaplan & Sadock, 1981, p. 143).

Although this description is fairly representative of the Type I test results and demographic means, there is not a complete overlap with the Schizoid Personality Disorder category of the Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition (DSM III) (American Psychiatric Association, 1980). The DSM III (p. 310) suggests that individuals diagnosed with Schizoid Personality Disorder seldom marry. In the present study, however, Type I offenders were the most married, and longest married of all four groups. Nevertheless, the title "Schizoid" was retained for Type I incest offenders because of other common characteristics that involve being "aloof", "humorless", "absence of warm feelings for others" (evidenced by low Nurturance on the PRF-E), "vague goals" (suggested by a weak need for Achievement and Dominance), and "detachment from their environment" (reflected by low Sentience and need for Understanding) (ibid.). Consequently, the use of the term "Schizoid" to describe Type I incest offenders should not be confused with a DSM III diagnosis of Schizoid Personality Disorder.

Type II incest offenders (n = 34, or 38.7%).

On the MMPI, incest offender Types II and III both achieved mean scale T-scores of less than 70, suggesting a relative absence of serious psychopathology, particularly in comparison with Type I and IV offenders. A closer examination of the pattern of MMPI validity scales shows that Type II offenders were more open to admitting their problems, whereas Type III offenders tended to downplay their difficulties, although not to the point of invalidating their profiles. Type II offenders show a sub-clinical (i.e. non-significant) elevation on MMPI scale 4 (Psychopathic Deviate). Greene (1980, p. 89) describes this as a moderate elevation:

These clients may be genuinely concerned about social problems and issues; they may be responding to situational conflicts, or they may have adjusted to an habitual level of interpersonal and social conflict. If the conflict is situational, the score should return to the normal range as the conflict is resolved.

The term "Normal" was chosen to describe Type II offenders. Obviously, incest is not normal, or at least not generally acceptable, and this label was not chosen to suggest the converse. The fact is, however, that the largest sub-group of incest offenders investigated in this study cannot be characterized as having any measurable serious psychopathology, nor any unusual patterns of need-motivations. As Groth (1982, p. 215) has said in reference to father-daughter incest offenders in general, "Such offenders do not differ significantly from the rest of the population ...". The results of this study suggest strongly that Groth is referring more specifically to Type II offenders, since the other Types are distinguishable.

Type II, or Normal incest offenders tend to be somewhat shy, as suggested by a below average mean score on need for attention (Exhibition). They differ from Type I (Schizoid) offenders because they are comfortable interacting socially, they tend to be caring and show a need to be Nurturing, and they have a stronger need for the supportiveness of others (Succorance). In other words, their social skills probably reflect stronger personal resources, and these also permit the Type II offender to access social resources for more effective problem resolution. Obviously, however, Normal incest offenders are not perfect in this regard or they would have no need to resort to their daughters for affection, solace, or sexual relief.

With respect to vocational accomplishment, Normal incest offenders probably have the best overall adjustment. They showed the highest level of Achievement motivation, and Endurance or persistence in completing a difficult task. This suggests a good level of drive, and energy available for vocational accomplishment. Their education level was the highest (10.9 years) of the four groups. Surprisingly, they had the lowest admitted level of employment at disclosure (70.6%) of the four Types. If, indeed, this group has good vocational adjustment, then their unemployment may reflect a desire to tolerate temporary unemployment while holding out for a better career opportunity. In contrast, Schizoid offenders may be more willing to work at unsatisfying, lower status jobs than is the case for Normal offenders. As a sub-group, the proportion of Normal incest offenders who were also alcohol abusers was the lowest at 50%, although this is still fairly high. To the extent that Social Desirability also reflects positive self-image, Normal offenders also had the best level of self-esteem.

While the distinguishing characteristics of the other three Types of incest offenders are suggestive of etiological hypotheses concerning their sexually abusive behaviour, such is not the case for the Normal offender. The question naturally arises as to why the largest subgroup, consisting of apparently normal men, would sexually molest their daughters. A detailed answer to this question requires more information on family dynamics and situational circumstances at the time of onset of the incest.

If one's focus is too narrow, then other more pervasive, contextual factors contributing to incest can be overlooked. The feminist perspective (see Herman, 1981; Rush, 1980) points to the socio-cultural issues of patriarchy and male abuse of social power as etiologically relevant to incest. This view may help to further elucidate the puzzle of why the Normal offenders in this study sexually assaulted their own daughters.

Normal men can commit an abnormal sexual act like incest if, given other preconditions, they can legitimize their behaviour in their own eyes. Incest offenders can, and do, justify themselves by claiming their apparent prerogatives in a father-dominated family nested within a patriarchically-organized culture (Meiselman, 1978, pp. 90-93). These prerogatives are concerned with exercising power over women and children, and can be misconstrued to justify a father having sex with his daughter as a right rather than a crime. Clearly, the male-dominated power relations in our society are not causal with respect to incest, or else most fathers would be molesting their daughters. On the other hand, it would be suspiciously narrow-minded for a (male) clinician or researcher to believe that incest only results from intrapersonal disturbances or the seductive behaviour of children.

In Finkelhor's (1984) Four Preconditions Model of Sexual Abuse, patriarchal attitudes can be classified as internal disinhibitors. Such attitudes can provide an offender with a self-justification for going beyond any constraints he feels against sexually assaulting his daughter. Thus, in Normal incest offenders, patriarchal attitudes toward women and children concerning issues of power, ownership, and sex, become more salient in contributing to the etiological dynamics of incest.

Type III incest offenders (n = 21, or 23.9%).

This group was the only one distinguished by a below-average I.Q. (88.95). Perhaps reflecting their lower I.Q., these incest offenders showed the second lowest education level, only slightly higher than Type IV offenders, who showed the most serious psychopathology. Although the education level is similarly low for these two Types, the contributing causes likely derive from two separate sources--intelligence level versus behavioural or psychological disturbance.

Type III offenders were the oldest, on average, with a mean age of 41.2 years. This group had the highest composition of stepfathers (52.4%), had the largest mean number of children (4.0), and abused the largest mean number of children (1.71) compared to the other three groups. They also had the longest average duration of abuse (27.6 months). These figures suggest that Type III offenders are more sociable, have more difficulty being alone, and possibly seek out families with more children if they are between marriages. The latter assertion implies a motivation on the part of these incest offenders that is suggested by the data, but not easy to prove. It may make more sense, however, in light of the primary defining personality characteristic of this group - passive dependency.

Type III offenders had the highest mean score on their need for Affiliation, Nurturance, and Succorance, and scored lowest on Autonomy. That is, they were the most social, described themselves as having more warm feelings and concern for others, had the strongest need for the support of others, and to be liked, and were the most adverse to being alone. This combination of scales is strongly suggestive of interpersonal dependency. Having the strongest need for the supportiveness of others (Succorance) and the strongest aversion to Autonomy, in combination with the second lowest score on Dominance is quite suggestive of a passive orientation. Research in the area of evaluative dependency further elucidates Type III offender characteristics.

Millham and Jacobson (1978) provide an excellent review of the research on evaluative dependency and the need for approval. The following discussion draws from their presentation of the research. Studies by Crowne and Marlowe (1964) and others have pointed out the frequent findings of correlations between the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) and the L and K validity scales of the MMPI. These findings indicate that individuals scoring higher on Social Desirability also tend to deny, sometimes in a naively transparent manner, any tendency toward wrong-doing or psychopathology. In the present study, Type III offenders had the highest scores on the L and K scales of the MMPI, although these scores were not high enough to invalidate their profiles. There is a connection between the fact that the L or Lie scale on the MMPI consists of obvious, unsophisticated items, and the fact that Type III offenders, who had the lowest mean intelligence score, also scored the highest on this scale. They were not overly subtle in their efforts to look good. This connection adds further support to the idea that Type III offenders are characterized by a strong need for approval. They also had the second highest mean score on Social Desirability, representing a moderate tendency to "fake good" and present a positive image to others. Although the Marlowe-Crowne Social Desirability Scale was not used in the present study, the PRF-E Social Desirability scale is similar to it in that it measures a social desirability response set with test items whose content is not focussed on psychopathology. Also, the PRF-E Social Desirability scale correlates negatively with the MMPI, as does the Marlowe-Crowne. This genre of research, as reviewed by Millham and Jacobson, indicates that the defensiveness of evaluatively dependent individuals is designed to avoid censure by others, and to protect their self-esteem, which appears to be more fragile and vulnerable to negative judgement than for persons low in the need for approval.

"(T)here is considerable evidence that high (Marlowe-Crowne) scorers do inhibit aggressive behaviour when frustrated or attacked" (Millham & Jacobson, 1978, p. 379), "... and when they do behave in a hostile manner they appear to experience little tension reduction as a result" (ibid., p. 381). The implication here is that an attack on another person will likely elicit a negative judgement, which is hard on the self-esteem of the evaluatively dependent person. Another way to look at this data is that an attack on a person on whom the attacker is dependent for supportive approval may drive away that person. If the need for support is that strong, it may be more self-serving to "eat crow" or even be self-abasing and "identify with the aggressor" than to act so as to drive away the source of one's need-fulfillment. Type III offenders strongly resemble this description. They had the highest PRF-E mean score on Abasement, and the lowest scores on Aggression and Defendence. They also showed the highest mean score on Harmavoidance. Type III offenders were clearly not risk takers. It is not surprising, therefore, that this group had the lowest percentage of offenders with a previous criminal record. They sacrificed their assertiveness and ability to meet their own needs in the hope that someone else would do it for them.

Such behaviour has a child-like aura to it, as though these offenders never really grew up. The fact that they acted as heads of families with the largest number of children compared to the other three groups of incest offenders, and that on average they sexually abused more of their children, raises a question as to whether the Type III offender sees himself as more like a child than an adult, and identifies in some way with children he molests. If so, he may be attracted to step-families with larger numbers of children, or he may father larger than average numbers of children because he feels more comfortable surrounded by children.

Such an orientation is reminiscent of descriptions of pedophiles, yet Type III offenders also seem to be quite oriented to adult sexuality. This group had the highest admitted rate of extra-marital affairs (52.4%). This piece of data is more likely related to the offenders' strong need for acceptance than to any fixated sexual preference one way or another.

It should be noted that Type III offenders had the highest mean score on need for support (Succorance), but not on the Social Recognition scale, which might be more accurately called a need for approval. Millham and Jacobson point out that research has delineated two components to the need for approval:

> In its final form the approval motive was conceptualized as a need to obtain positive evaluations (approach component) and as a need to avert negative evaluations (avoidance component). [ibid., p. 386].
>
> However, it does not seem to make much theoretical sense to estimate the strength of two separate drive vectors (approach and avoidance) with a single score on a personality scale. ... Careful analysis of the research evidence supports then, a censure-avoidant interpretation of the (Marlowe-Crowne) score. No study provides clear-cut evidence that (Marlowe-Crowne) score is measuring the strength of an approach-approval motive. [ibid., p. 387].

Type III offenders show a clear pattern related to avoiding censure or rejection. Their approach component seems to be more oriented toward eliciting the supportiveness and perhaps the protectiveness of others as a sign of acceptance. They may be less interested in being approved as a peer than of being taken care of as if they were helpless. Their behavioural manipulations will likely be directed toward eliciting such responses from others.

The Type III incest offender is similar to Groth's (1982) Regressed Pedophile, and in some ways he also resembles Weinberg's (1955) Endogamic Incest Offender. With the Type III offender, however, the extensiveness of extra-marital infidelity makes it confusing to describe him as a pedophile, regressed or otherwise. Similarly, Weinberg's term "endogamic" is problematic because of the promiscuity. Weinberg's Endogamic type overlaps with both Type I and Type III offenders. His Promiscuous type overlaps with both Type III and Type IV incest offenders in this study. Rather than further confusing the nosology scene in classification research on incest offenders, it was decided to adopt the label "Dependent" to identify Type III offenders.

There are several other inferences we can make from the mean PRF-E scores of the Dependent incest offenders. They are likely not a happy lot and probably do not enjoy their lives overly much, given that they had the lowest Play score. Seeking solace with children, no doubt, is more enjoyable for them than facing demands, criticisms, and potential rejections from adults. Similar to the Schizoid offender, Dependent types may have difficulty experiencing sensual pleasure other than sexually, as evidenced by their low score on Sentience. They were second lowest in their need for Change and variety, so it is not surprising that they also had the longest mean duration of abuse. This suggests that it is less likely that the Dependent offender will terminate the abuse on his own accord, and points to the importance of intervention by authorities external to the family in order to stop the molestation. Because the Dependent offender has a strong need for acceptance, it would not be surprising to find him agreeing with both sides in a family dispute. By abdicating his responsibilities as one of two parents in the family, he is more prone to forming covert alliances with the children and undermining the mother's parenting effectiveness. The wives of Dependent incest offenders were probably looking for a spouse and parenting partner when they entered into relationship with the offender. No doubt they were dismayed to discover they had taken on the burden of another child, this one disguised in a man's body. Interview data from the wives of Dependent incest offenders could be used to assess the validity of this hypothesis.

Type IV incest offenders (n = 15, or 17%).

It was not difficult to notice the distinguishing characteristics of the Type IV offender in comparison to the other three Types. Their MMPI profiles, with peaks on scales 4 and 8 (Psychopathic Deviate, and Schizophrenia) reflect an insidious psychopathology with psychotic overtones. Greene (1980, p. 133) describes individuals having this pattern of scores:

> They are dissatisfied with their relationships with

other people, but their angry, resentful qualities, which they have difficulty modulating or expressing, only serve to exacerbate their alienation from others. They see the world as dangerous and other people as rejecting and unreliable. They are moody and emotionally inappropriate. Their behaviour is typically unpredictable and nonconforming at best. They frequently get into social and legal difficulties because of their poor judgment and their problems in logic and thinking. A history of criminal activity with numerous arrests is common. Their crimes are often poorly planned and executed and may involve bizarre or violent behaviours. This is a frequent high-point pair among child molesters (McCreary, 1975), rapists (Armentrout & Hauer, 1978), (and) rapists and exposers (Rader, 1977).

The PRF-E scores and demographic data on Type IV incest offenders are quite supportive of these descriptions. Type IV offenders scored higher than the other three groups on Aggression, Defendence, Dominance, and Impulsivity, and had the lowest mean scores on Abasement, Nurturance, and Social Desirability. They also had the highest scores in their need for attention (Exhibition) and approval (Social Recognition). This suggests that they are not withdrawn and schizoid as some writers have suggested (see Stelmachers, in Lachar, 1974, p. 86). Rather, they are probably quite vocal, demanding, and not overly uncomfortable being in the spotlight, particularly when they are able to unleash their anger and frustration on someone. Since the Type IV offender has a low concern for the feelings and welfare of others, it is likely that his style of abuse is harsh and punitive. He shows the highest mean score on Dominance, although this is in the average range for the general population. It seems reasonable to hypothesize that his style of controlling and persuading others will be characterized by anger, aggressiveness, and blaming.

Type IV incest offenders were the youngest of the four Types, with a mean age of 34.7 years. They had the highest I.Q. (100.6), but the least amount of education (9.47 years). No doubt their psychopathology and concomitant behaviour disturbance contributed frequently to an early termination of their schooling. They were married for a shorter period of time compared to the other types of incest offenders, which makes sense given that they were younger, on average. They had the lowest average number of children (2.73), as well as the lowest average number of abused children (1.13). Their molested daughters were the youngest at disclosure with an average age of 11.8 years. What most likely reflects how their psychopathology affected their molesting behaviour is that they had the shortest abuse duration figure (23.3 months), but by far and away the highest mean number of incidents of incest (66.4) before disclosure ended the sexual abuse.

Other demographic data are also indicative of a troubled life. Type IV offenders had more than twice the proportion of individuals with a previous criminal record (60%) as the next closest group, the Normal incest offenders. Their rate of alcohol abuse and illegal drug use was also the highest (80% and 46.7%, respectively). Not surprisingly, they had the second highest rate of extra-marital affairs (46.7%). What is surprising is that this group had the second highest rate of employment at the time of disclosure (80%), even higher than the Normal offender group. It would have seemed reasonable to assume that emotional lability and a troubled lifestyle would have resulted in a high unemployment rate for this group of incest offenders. Finally, the Type IV incest offenders are characterized by having the lowest admitted rate of prior sexual victimization (20%). In the research studies in which mother-son incest has been investigated, psychotic features in the son and/or mother are often reported (see Meiselman, 1978, pp. 298-311). Because the Type IV offenders typically show psychopathology of a more psychotic nature on their MMPI profiles, it may be a fruitful research endeavour to investigate the family background of this group of incest offenders more closely for the possibility of mother-son incest.

In choosing the label "Psychopath" for this category of incest offender, more emphasis was given to the elevated scale 4 (Psychopathic Deviate) than scale 8 (Schizophrenia)

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on the MMPI. In Lachar's (1974, p. 84) summary of the 4-8 profile type, he notes that "they straddle the fence between character disorder and psychosis". He describes variations of this type: "Elevated Scale 0 (Social Introversion) here is a good indicator of a schizoid process. When Scale 0 is low, a characterological adjustment and an alcoholic father are good possibilities" (ibid., p. 86). The mean Scale 0 score for Type IV offenders was not elevated (T-score = 58.1). Also, 46.7% of Type IV offenders admitted that their fathers were alcoholics. This pattern of data emphasizes that Type IV incest offenders should be viewed more as having a character disorder than a psychotic disorder. Consequently, the label "Psychopath" seems appropriate for this group. Again, however, this label should not be confused with a strict DSM III diagnosis of Antisocial Personality Disorder since no attempt was made to ensure that each member of this sub-type was characterized by clinical data supporting such a diagnosis.

This concludes a discussion of the similarities and differences between the four incest offender sub-types developed from this taxonomic study. An overview of the four sub-types reveals that they each have distinct patterns along the dimension of need-motivations. These patterns also parallel a movement along the dimension of psychopathology~~,~~ from schizoid to character disorder to normal. This internal coherence of the typological dimensions is a consequence of the theoretical, psychometric, and empirical aspects of the classification methodology used in the present study.

Implications for Psychotherapy

In Chapter Two of this study it was pointed out that the researcher's goals should provide some guidance to the construction of a typology since the classification scheme was to be viewed as a tool used by the researcher to achieve some aim. One of the aims of this study was to develop a taxonomy of incest offenders that could serve as a clinical tool to facilitate therapy outcome studies. It was also intended that the typological dimensions could provide some guidance for therapeutic intervention. The results of the present study suggest some ways this could be accomplished.

With Schizoid incest offenders, medications may be appropriate for reducing anxiety and depression. This Type of incest offender would probably have considerable difficulty benefiting from group therapy because of his extreme shyness, and the asocial nature of the schizoid process. They would tend to remain in their shells if the therapist did not devote extra effort to drawing them out. If attacked by other group members, the Schizoid offender would probably withdraw even further or drop out of therapy. His self-esteem is so dismal that it would be prudent for the therapist to protect him from such attacks, at least initially. Individual supportive therapy may possibly be more effective from this standpoint. With the Schizoid incest offender, depression, anxiety, and self-esteem are key therapy issues. Positive change in these areas will probably be a prerequisite to positive change in areas of accepting responsibility for the incest, and interacting effectively within his family as a parent and a spouse. Consequently, useful therapy outcome assessment might involve pre- and post-therapy measurements on such instruments as the Beck Depressi[illegible] Inventory (Beck, 1978), the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970), and the Tennessee Self-Concept Scale (Fitts, 1965). Reduced scale elevations on the MMPI could also be considered a therapeutic gain.

With the Dependent incest offender, assertiveness seems to be sacrificed in the interests of manipulating others from a state of passivity or helplessness. It would be even more important to emphasize the acceptance of responsibility for the incest in this case. These offenders are characterized to a greater extent than the others by transparent dissimulation in order to avoid negative judgements by others. The therapist needs to distinguish a sincere acceptance of responsibility of the molestation from simple parroting of appropriate phrases. Assertiveness training and concrete behavioural homework assignments are useful therapy adjuncts with this type of offender. Assessment of changes on this dimension can be made with any of the assertiveness tests (see Hall, 1977). Having the daughter confront the offender at some stage in the therapy process would likely be effective in dealing with his avoidance of responsibility. Also, family therapy can be quite useful as a counter-measure to the Dependent offender's dissembling because covert alliances can be more easily monitored, and the offender's commitment to specific behavioural changes can be assessed openly by all parties involved. If the Dependent offender and the rest of his family are treated separately by different agencies, he may be more likely to play both ends against the middle to avoid having to make any real changes in his attitudes and behaviours.

Depending on the nature of his psychopathology, the Psychopathic incest offender may be able to benefit from anti-psychotic medication. As with all incest offenders, abstention from alcohol is an essential prerequisite to therapeutic progress in cases where alcohol abuse is salient. Therapy groups focussed on anger control will likely be of benefit for the Psychopathic incest offender because of their aggressiveness, anger, and low frustration tolerance as suggested by their group PRF-E profile. The therapist should expect strong vocal defensiveness accompanied by blaming and resentfulness. Therapeutic progress may be difficult, but a group therapy format is probably quite important with this kind of offender.

The Normal incest offenders will likely benefit the most from group therapy. Since they tend to be more task-oriented than the other Types, they likely will approach therapy in a similar manner. Insight into the motivations for their offences should come somewhat easier for them than for the other Types. In contrast to the Psychopath who needs to develop stronger cognitive controls over his emotional responses, the Normal offender needs to augment his cognitive insights with emotional realizations concerning his offence. For those wives who choose to remain with their Normal- offender husbands, couple therapy in a group format can be useful to rejuvenate the marital bond, and strengthen co-parenting skills.

These are some ideas concerning therapy and therapy assessment with incest offenders that are suggested by the typological characteristics resulting from the present study. The above ideas illustrate how goal-accomplishment can be facilitated for the taxonomist if those goals are utilized earlier in guiding the taxonomic process.

Limitations of the Study

One of the major limitations of this study is that it focussed solely on the incest offender. The occurrence of incest is multidimensionally determined. Consequently, the broader picture of incest will be obtained only when the research design approaches its topic from a variety of perspectives. Family dynamics are clearly important, and a well-developed typology of incestuous families or their interactions would be a very useful clinical tool. Classification research that focusses on other individuals in incestuous families would be a valuable prerequisite to an investigation of family dynamics.

A second limitation of this study was the lack of an external validation component in the research design. A questionnaire completed by the psychologists who were concurrently working directly with these offenders would have permitted an evaluation of the accuracy of the typological characteristics, and the appropriateness of the categories.

A third limitation concerns the methodology of the study. In the present state of the art, cluster analytic solutions are not statistically rigorous. Therefore, a more comprehensive approach to the cluster analysis and internal validation procedures would have been justified were there more time and money available for this study.

No doubt there are other limitations of this study. These generally pose problems in any research on clinical groups. The typology of incest offenders resulting from the present research, despite its shortcomings, represents a significant improvement over previous classification research with incest offenders.

Recommendations For Future Research

Apart from the issues mentioned in the preceding section, there are some ways to improve on this study. Doing post-hoc file research limits the extensiveness and specificity of the data which is extracted. It would be more effective to intentionally design an information-gathering instrument that is consistently used in assessing incest offenders, or their families. In this way more specific hypotheses concerning incest could be tested by the research.

A second recommendation concerns the classification methodology itself. Classification research in psychology is rapidly increasing in sophistication, with notable contributions being made by Harvey Skinner (1977; 1978; 1979; 1981). Although these improvements were beyond the scope of the present research, their application to future classification research on incest will no doubt deepen our understanding of the etiology and treatment of incest.

Conclusion

Previous classification research on incest offenders has not been overly fruitful in terms of either clinical practice or theory development. The advancements made by the present study involve using a well-developed and well-researched psychometric instrument, the PRF-E, as a basis for grouping incest offender. This innovation places the resulting typology well within the realm of personality theory, specifically Henry Murray's personology, and provides a basis for developing and testing hypotheses about incest offenders from within the context of psychological theory.

Basing the typology on a psychometric instrument is an improvement over previous subjective and impressionistic approaches, and vastly increases the probability of good statistical reliability when making individual classification assignments to the various typological categories. The use of a multivariate clustering algorithm as an empirical decision-making tool for arriving at typological distinctions also enhances the distinctiveness and reliability of the resulting incest offender sub-types.

Although the PRF-E is not itself a measure of psychopathology, the categories based on it showed patterns of need-motivations which also correlated with two distinct patterns of psychopathology on the MMPI. This shows clearly that the PRF-E is a useful instrument for assessing incest offenders, and is an appropriate basis for classification research.

It appears that the present research was successful in its attempt to generate a typology that was theoretically-grounded, psychometrically-based, and empirically-derived. Future classification research in the area of incest need no longer be based on vague criteria, subjective impressions, and atheoretical perspectives. By basing incest research on a more empirical foundation, hypotheses regarding clinical principles about incest etiology, dynamics, and treatment, can be tested and proven true or false. It is in this way that a more rigorous approach to classification research in incest can contribute generally to the maturation of scientific knowledge in clinical psychology.

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APPENDIX A

Table A-1

PRF-E INTERCORRELATION MATRIX

Scale	Ab	Ac	Af	Ag	Au	Ch	Cs	De	Do	En	Ex	Ha	Im	Nu	Or	Pl	Se	Sr	Su	Un	In	Dy
Ab		28	27	-44	-14	02	25	-54	-18	29	-18	-01	-31	38	24	-12	-05	-20	30	08	-05	34
Ac	17		32	-13	-01	29	41	-11	21	58	05	-27	-32	21	22	-24	32	-13	-03	48	-14	49
Af	17	22		-24	-37	18	40	-25	23	36	35	02	-44	63	32	04	17	06	55	16	-15	64
Ag	-38	-21	-15		35	01	-14	55	24	-20	28	-01	47	-29	-30	23	09	12	-23	02	11	-41
Au	-12	-10	33	13		18	-26	34	-03	-05	-03	-19	18	-34	-16	14	-05	-08	-39	04	25	-31
Ch	10	26	17	-04	14		12	-07	24	24	25	-17	-04	13	12	07	34	03	02	42	-04	16
Cs	04	40	21	-18	-32	05		-08	16	37	07	10	-59	47	49	-18	20	04	30	19	-21	54
De	-46	-19	-16	48	06	-07	-06		35	-13	08	04	41	-29	-20	03	06	27	-22	02	06	-37
Do	-08	34	19	08	04	20	24	06		28	42	-18	-02	18	-09	01	37	18	-01	29	-11	08
En	20	58	16	-26	-01	24	31	-22	30		09	-15	-45	20	33	-22	16	-23	03	30	-11	50
Ex	-04	11	40	15	-04	16	05	05	40	10		-08	01	05	08	19	24	02	20	25	-00	07
Ha	-10	-15	-05	-03	-27	-29	14	07	-20	-24	-18		-15	12	13	-15	-45	01	21	-28	07	-07
Im	-10	-39	-15	42	24	-03	-58	23	-16	-37	08	-14		-48	-58	32	-08	14	-25	-08	21	-61
Nu	35	33	41	-22	-26	17	26	-19	20	32	18	-10	-20		35	-06	24	05	54	20	-19	58
Or	11	44	21	-31	-22	12	57	-16	21	39	05	07	-59	26		-23	03	-09	13	12	-03	45
Pl	-08	-32	16	31	12	06	-38	12	-04	-26	26	-17	48	-10	-38		12	06	00	-12	06	-22
Se	13	15	11	02	02	24	10	-02	21	17	18	-23	00	33	07	05		23	08	41	-22	17
Sr	-07	07	27	13	-30	03	22	22	14	-04	17	09	-04	17	14	05	12		08	04	-17	-23
Su	10	-02	27	-03	-50	-08	20	-01	-05	-08	06	21	-09	25	11	01	07	36		-01	-02	34
Un	09	36	08	-14	03	22	25	-12	27	33	07	-13	-22	21	23	-22	26	00	00		-06	26
In	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		-20
Dy	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

NOTE: Decimals have been omitted. Data above the major diagonal are for 88 male incest offenders used in this study. Data below the major diagonal are for 2215 enlistees for the Canadian Armed Forces. The latter information was collected by H. Skinner & G. Rampton, and is taken from Jackson, 1974, p. 49. These data are included for comparison purposes.

Table A-2

MMPI AND PRF-E INTERCORRELATION MATRIX FOR 88 INCEST OFFENDERS

MMPI SCALE

PRF-E SCALE	L	F	K	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma	Si
Ab	35	-18	14	03	-17	07	-22	-10	03	-08	-19	-04	-11
Ac	20	-22	15	-14	-33	-08	-21	15	-01	-42	-31	03	-37
Af	35	-36	40	-15	-38	01	-21	-20	-14	-35	-43	09	-67
Ag	-49	50	-41	20	07	00	28	06	09	14	37	29	15
Au	-17	42	-25	17	09	-02	15	08	25	16	32	17	26
Ch	15	03	-03	02	-07	-03	-06	15	00	-10	-01	20	-17
Cs	30	-16	17	-19	-21	-08	-10	-05	-19	-38	-34	-05	-41
De	-38	43	-33	04	22	-08	39	19	18	19	36	17	21
Do	-02	02	05	-11	-16	-06	15	25	05	-08	07	31	-34
En	36	-17	15	-19	-38	-12	-21	00	01	-40	-31	10	-38
Ex	-03	-04	14	03	-23	10	06	-01	-08	-09	-01	35	-53
Ha	13	02	01	06	09	03	-11	-09	08	-01	-02	-12	02
Im	-52	45	-47	16	27	02	21	-03	12	36	46	14	46
Nu	27	-32	24	-14	-28	02	-15	-01	-02	-28	-41	08	-45
Or	37	-26	15	-28	-20	-19	-19	-03	-18	-21	-42	-10	-27
Pl	-17	23	-05	10	-11	-02	-01	-12	-05	15	29	27	-01
Se	-17	10	-14	-10	-15	-04	-02	32	12	02	05	33	-22
Sr	-24	13	-26	-01	16	00	09	10	06	20	05	11	09
Su	20	-25	24	-05	-24	07	-24	-10	-10	-15	-23	09	-40
Un	10	04	-08	-14	-09	00	-08	24	09	-17	-15	16	-26
In	13	16	08	10	08	12	-01	-08	07	12	18	-19	18
Dy	42	-50	44	-35	-41	-13	-35	-15	-18	-51	-58	-17	-58

NOTE: Decimals are omitted.

Table A-3

PRINCIPAL AXIS FACTOR ANALYSIS OF 21 PRF-E VARIABLES
VARIMAX ROTATED FACTOR LOADING MATRIX

SCALE	I	II	III	IV	COMMUNALITIES
Ab	0.266	0.206	0.069	-0.551	0.422
Ac	-0.019	0.502	0.576	-0.155	0.609
Af	0.747	0.238	0.278	-0.023	0.693
Ag	-0.288	-0.237	0.080	0.602	0.508
Au	-0.554	-0.083	0.136	0.118	0.346
Ch	0.038	0.057	0.522	0.028	0.278
Cs	0.394	0.602	0.143	0.058	0.541
De	-0.336	-0.011	-0.026	0.766	0.701
Do	0.119	0.097	0.463	0.496	0.484
En	0.038	0.575	0.424	-0.152	0.535
Ex	0.269	-0.090	0.366	0.366	0.349
Ha	0.204	0.186	-0.596	0.142	0.452
Im	-0.371	-0.675	-0.024	0.254	0.659
Nu	0.699	0.276	0.157	-0.102	0.600
Or	0.260	0.566	0.011	-0.131	0.405
Pl	0.074	-0.497	0.121	0.085	0.274
Se	0.164	-0.047	0.655	0.161	0.484
Sr	0.187	-0.182	0.004	0.413	0.239
Su	0.722	0.013	-0.046	-0.046	0.526
Un	0.015	0.189	0.601	0.053	0.400
Dy	0.471	0.545	0.296	-0.294	0.692

TOTAL VARIANCE ACCOUNTED FOR BY A 4-FACTOR SOLUTION:

25.498% + 22.946% + 22.133% + 18.376% = 88.953%

NOTE: Underlined factor loadings were chosen for factor definition. Except for Do, these are the highest scale-factor correlations.

Table A-4

Discriminant Analysis of 4-, 5-, and 6-Cluster Solutions

F-Test Values for 21 PRF-E Variables

Variable Rank	4 Clusters		5 Clusters		6 Clusters	
1	Dy	32.21	Dy	24.32	Dy	23.08
2	Af	31.47	Af	23.33	Af	22.86
3	Nu	27.30	Nu	20.51	Nu	18.81
4	Se	18.20	Se	16.86	Im	18.22
5	Im	18.00	Im	16.15	Ag	18.18
6	Or	16.39	Or	16.00	Or	13.72
7	Cs	16.21	Cs	14.07	Ha	13.30
8	Ac	15.47	Ac	11.93	Ac	12.05
9	Ag	15.01	Ag	11.42	Se	11.44
10	Ex	12.68	Ha	11.22	Cs	11.14
11	Ha	12.25	Do	10.19	Pl	9.72
12	Ab	11.91	Ch	9.90	En	8.51
13	Ch	11.89	Ex	9.71	Ch	7.71
14	Do	10.75	Ab	9.09	Su	7.67
15	Su	9.63	Su	9.05	De	7.13
16	Au	9.20	De	7.72	Un	6.92
17	En	8.61	En	7.58	Au	6.87
18	Un	8.31	Pl	7.08	Ab	5.95
19	De	8.18	Au	6.87	Do	5.78
20	Sr	1.82	Un	6.41	Ex	4.15
21	Pl	1.29	Sr	1.40	Sr	0.32

NOTE: Derived from a cluster analysis of 88 incest offenders.

Table A-5

Mean PRF-E T-Scores for Four Types of Incest Offenders

Scale	Type I (n=18)		Type II (n=34)		Type III (n=21)		Type IV (n=15)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Ab	49.50	8.73	53.68	10.10	56.71	8.62	39.40	6.42
Ac	40.06	7.09	54.35	5.75	44.91	7.32	43.40	12.24
Af	37.39	7.19	53.88	7.31	56.71	6.70	43.47	6.83
Ag	49.17	10.19	48.79	7.36	40.57	7.65	60.27	9.64
Au	36.56	6.76	35.79	5.70	30.00	4.44	40.47	7.22
Ch	34.89	6.45	46.27	7.96	40.62	6.98	47.33	6.58
Cs	44.00	8.66	55.74	7.07	55.95	6.02	45.47	6.59
De	49.94	8.99	49.74	10.07	45.76	8.31	60.80	7.22
Do	35.44	6.59	45.27	8.22	40.48	9.73	50.33	5.85
En	40.78	10.41	52.29	8.04	49.29	7.20	43.20	8.44
Ex	35.78	4.49	44.77	7.74	44.00	7.22	50.00	5.22
Ha	56.44	8.27	51.06	6.63	62.57	5.16	53.98	7.35
Im	56.39	9.10	45.77	7.18	43.43	5.10	59.40	10.85
Nu	43.17	8.01	54.79	4.91	57.24	4.25	43.00	8.58
Or	45.06	5.74	54.47	7.25	56.19	6.14	44.47	6.67
Pl	43.00	6.06	41.82	6.75	41.81	4.95	45.60	8.07
Se	33.89	6.55	46.29	6.58	35.95	6.91	41.87	5.37
Sr	49.72	7.24	50.74	6.58	51.05	6.22	55.00	7.39
Su	50.72	7.87	55.74	7.28	61.76	5.95	51.53	6.43
Un	33.50	7.70	44.59	8.01	34.71	9.02	39.20	10.82
Inf	53.89	9.96	49.18	8.45	51.00	10.20	53.27	10.80
Dy	37.94	9.38	55.59	7.13	54.19	8.30	38.73	7.59

Table A-6

Mean MMPI T-Scores for Four Types of Incest Offenders

Scale	Type I (n=18)		Type II (n=34)		Type III (n=21)		Type IV (n=15)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
L	48.61	5.83	54.82	7.23	60.19	8.27	49.07	9.35
F	60.67	8.93	57.06	6.64	55.62	7.02	65.60	15.99
K	49.06	6.90	54.88	7.62	59.95	9.49	51.13	9.39
Hs	62.44	13.02	54.35	11.18	60.67	12.97	66.60	17.37
D	76.67	11.35	61.97	12.61	65.38	14.71	69.73	14.31
Hy	62.83	8.87	60.18	8.43	65.10	10.25	64.00	10.32
Pd	70.06	10.71	67.47	10.87	66.91	11.28	73.80	9.64
Mf	62.50	6.95	63.74	11.91	58.91	5.74	64.40	10.78
Pa	63.50	11.12	62.03	9.50	59.52	9.38	62.60	10.59
Pt	71.44	9.48	60.88	9.38	60.00	10.78	65.73	17.90
Sc	67.39	9.21	56.97	9.29	58.24	12.49	73.00	19.10
Ma	53.81	7.03	59.09	9.47	55.76	10.02	60.73	7.84
Si	70.72	8.25	52.32	8.87	51.81	9.00	58.07	8.54

Table A-7

IQ & Demographic Data for Four Types of Incest Offenders

Continuous Variables	Type I (n=18)			Type II (n=34)			Type III (n=21)			Type IV (n=15)		
	Mean	S.D.	n=?	Mean	S.D.	n=?	Mean	S.D.	n=?	Mean	S.D.	n=?
Full-Scale I.Q.	99.78	10.16	18	98.03	9.22	33	88.95	12.94	21	100.60	10.44	15
Age (years)	37.50	6.80	18	36.77	6.72	34	41.19	6.80	21	34.73	6.41	15
Education (years)	10.61	2.79	18	10.94	2.12	32	9.52	2.13	21	9.47	2.31	15
Marriage Duration (years)	12.61	6.10	18	11.27	7.97	33	11.10	6.10	20	10.64	8.33	14
# Children	3.00	1.70	18	3.03	1.32	34	4.00	2.60	21	2.73	1.12	15
# Child. Abused	1.17	0.50	18	1.27	0.50	34	1.71	1.52	21	1.13	0.34	15
Age of Abused Child At Disclosure	13.19	4.07	(21)*	11.95	3.94	(42)*	12.03	4.33	(34)*	11.82	4.41	(17)*
Duration of Abuse (months)	23.50	31.03	18	27.03	35.86	34	27.57	37.86	21	23.33	22.00	15
# Incidents of Abuse	25.11	57.37	18	48.19	103.76	31	36.15	76.21	20	66.40	132.74	15

(NOTE: Here only, n = number of abused children determining the means and standard deviations.)

Dichotomous Variables	Type I (n=18)			Type II (n=34)			Type III (n=21)			Type IV (n=15)		
	Yes	No	?/NA	Yes	No	?/NA	Yes	No	?/NA	Yes	No	?/NA
Criminal Record	5	13	0	10	24	0	5	16	0	9	6	0
Alcohol Abuse	13	5	0	17	14	3	11	9	1	12	3	0
Drug Use	3	14	1	9	18	7	4	13	4	7	4	4
Previous Marriages	3	15	0	8	25	1	6	15	0	3	12	0
Affairs	5	12	1	11	15	8	11	8	2	7	6	2
Offender Previously Victimized Sexually	7	9	2	12	16	6	6	12	3	3	11	1
Ethnicity - Caucasian	15			31			18			13		
- Native	3			1			3			2		
- Black	0			2			0			0		
Employed When Apprehended	17	0	1	24	8	2	16	5	0	12	3	0